FIG. 1

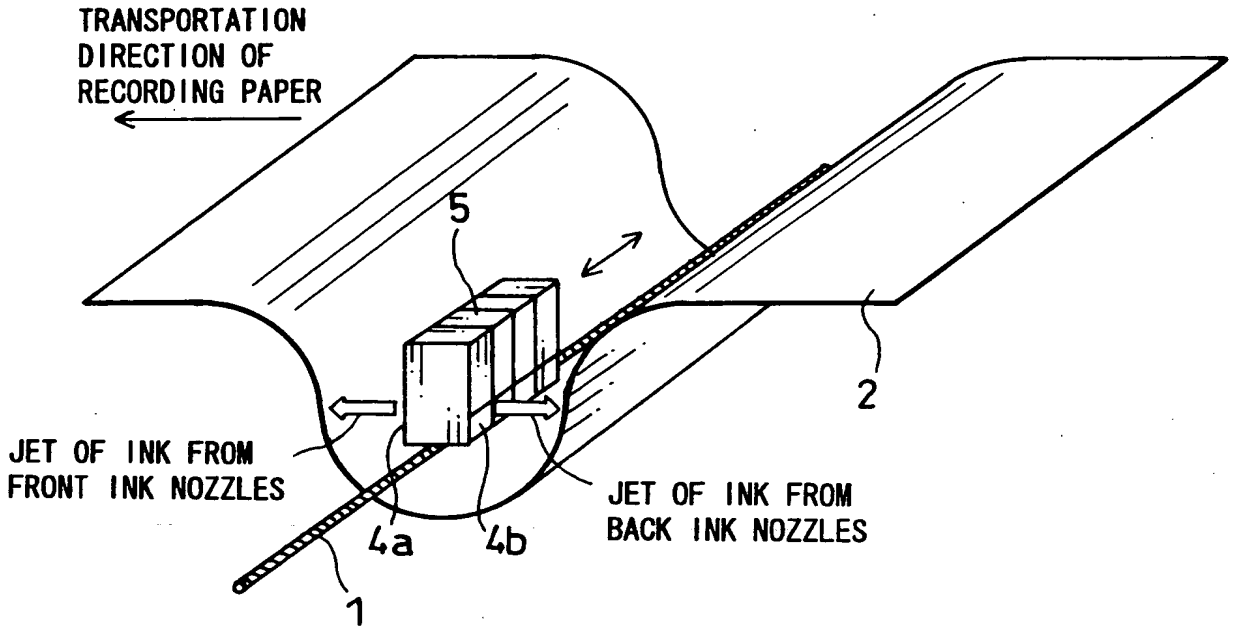
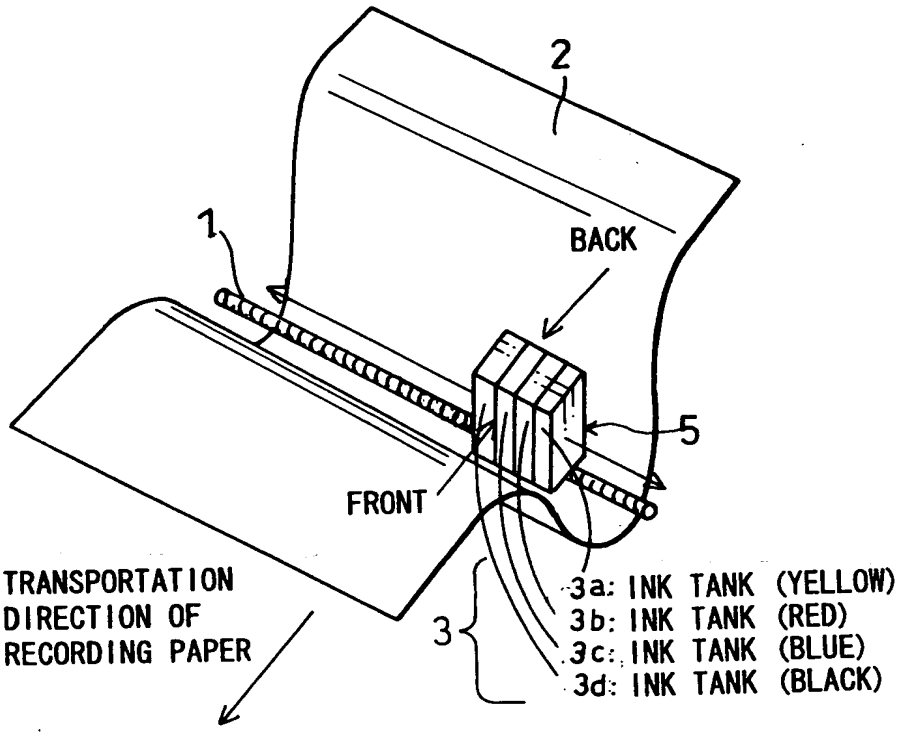

TRANSPORTATION
DIRECTION OF
RECORDING PAPER
5
2
JET OF INK FROM
FRONT INK NOZZLES
JET OF INK FROM
BACK INK NOZZLES
4a
4b
1

FIG. 2



0567840 - 052800

FIG. 3

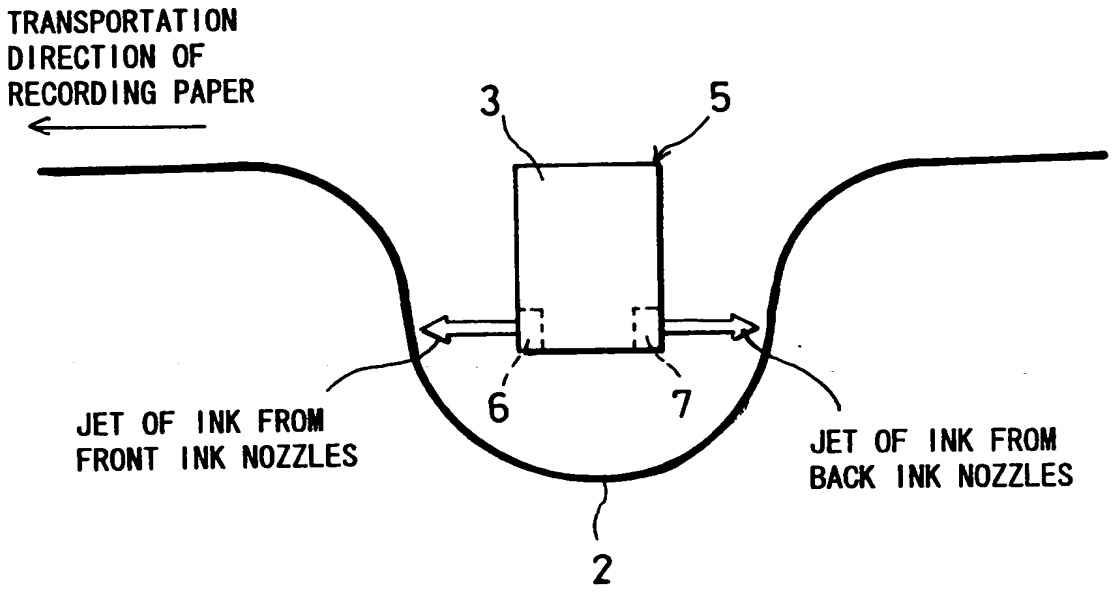

TRANSPORTATION
DIRECTION OF
RECORDING PAPER
3
5
6
7
JET OF INK FROM
FRONT INK NOZZLES
JET OF INK FROM
BACK INK NOZZLES
2

FIG. 4(a)

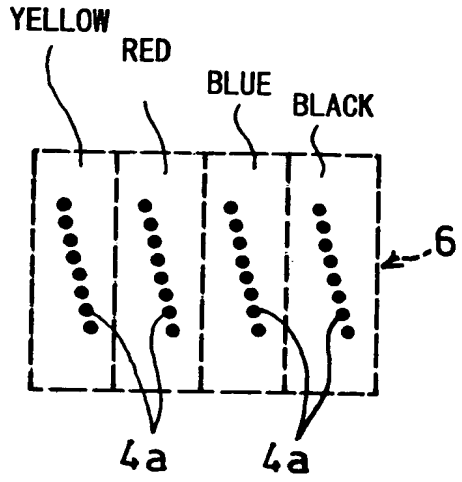
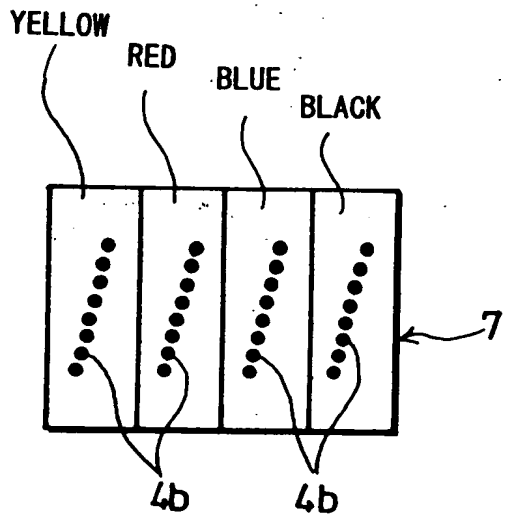
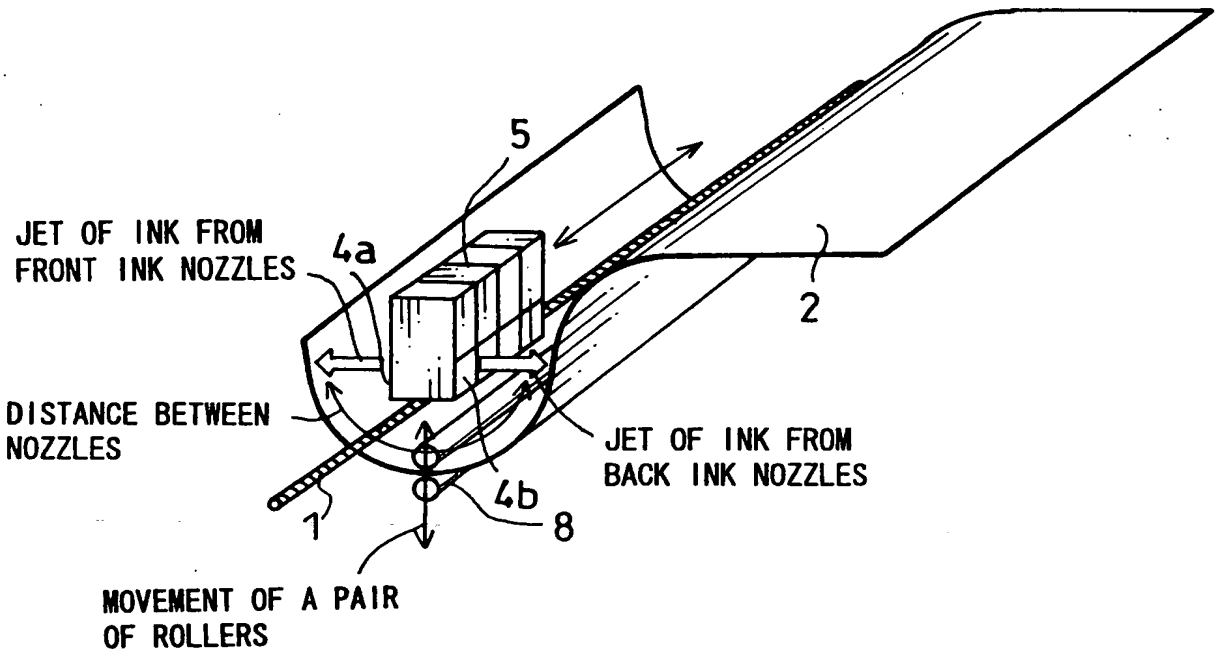


FIG. 4(b)



0967084D-052800

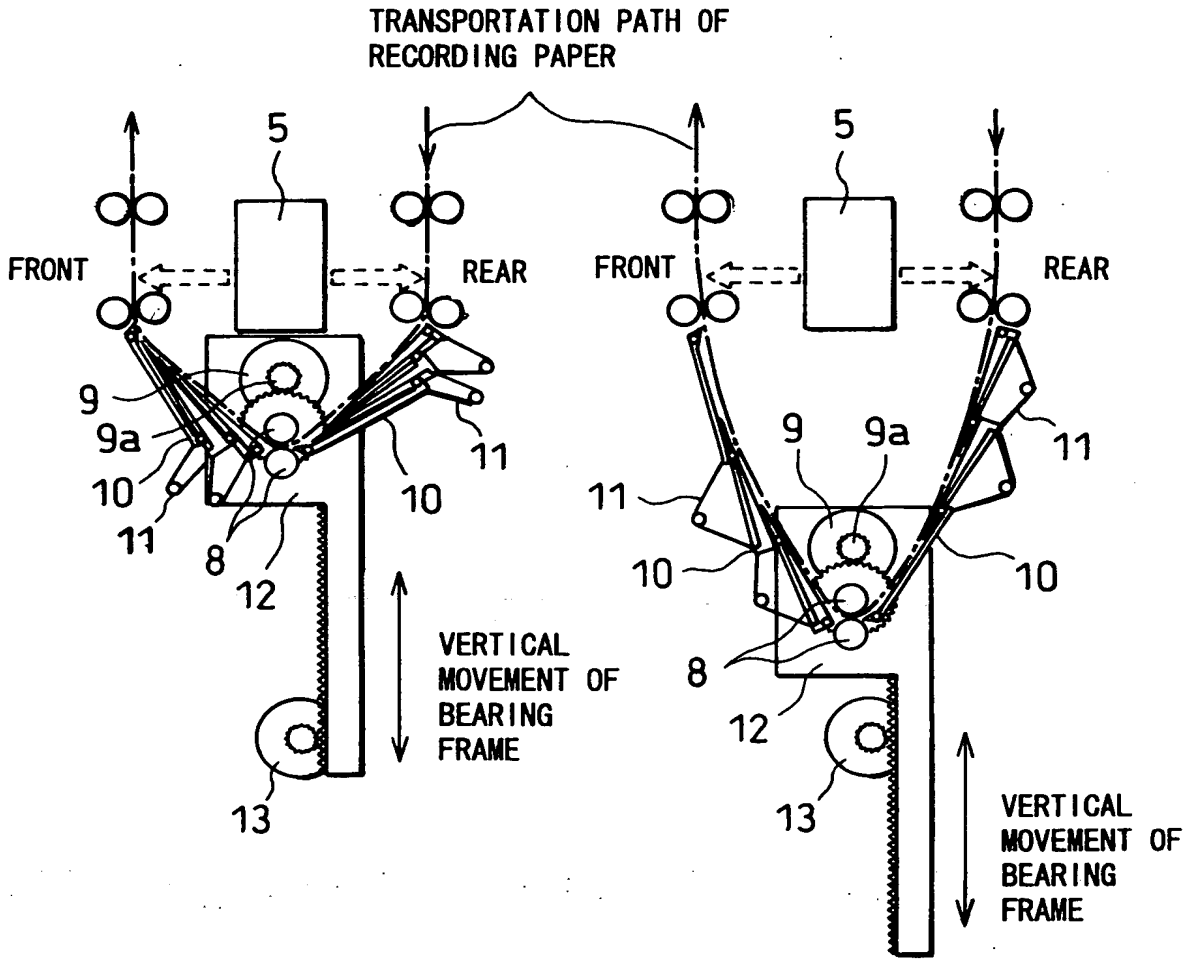
FIG. 5



0570840-050800

FIG.6(a)

FIG.6(b)



0967084-090800

FIG. 7 (a)

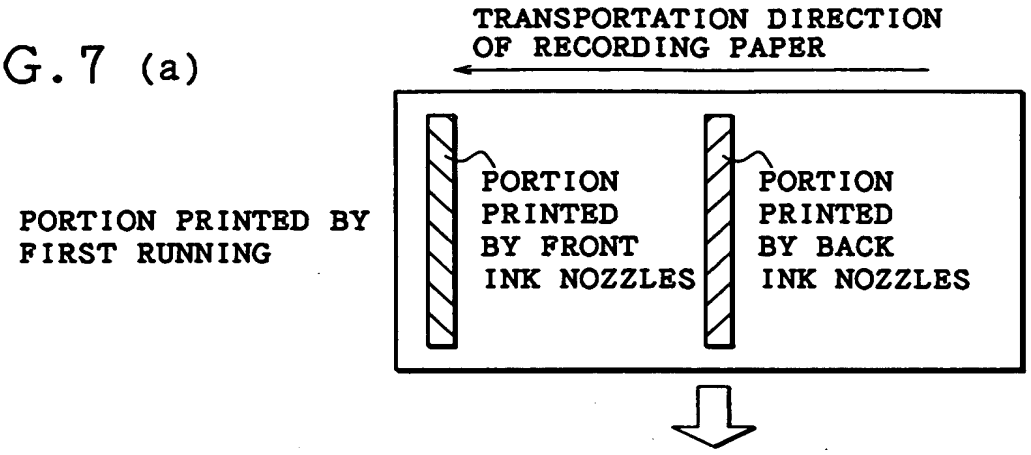


FIG. 7 (b)

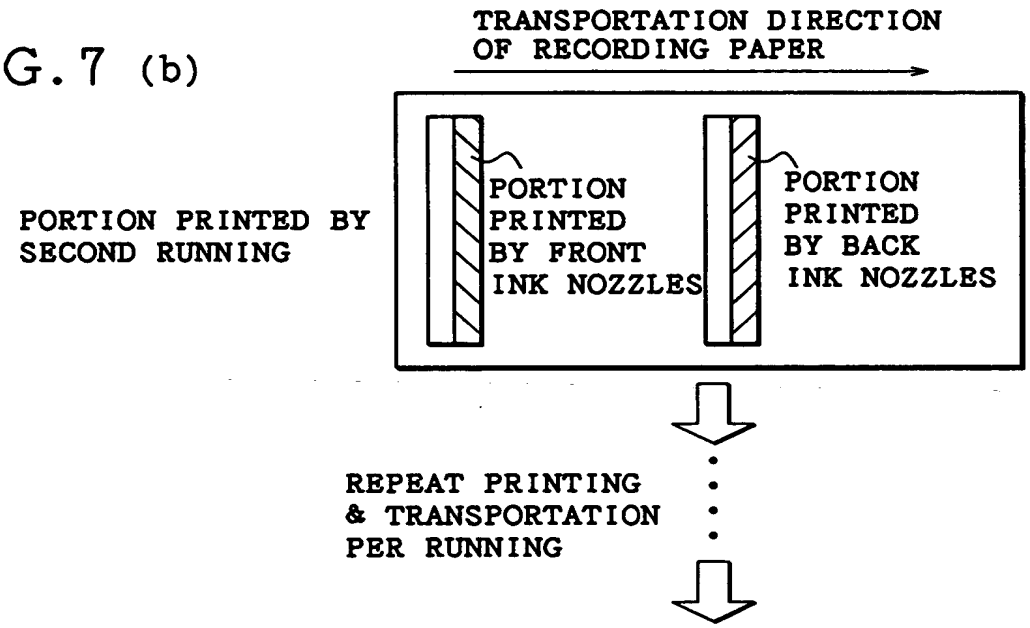
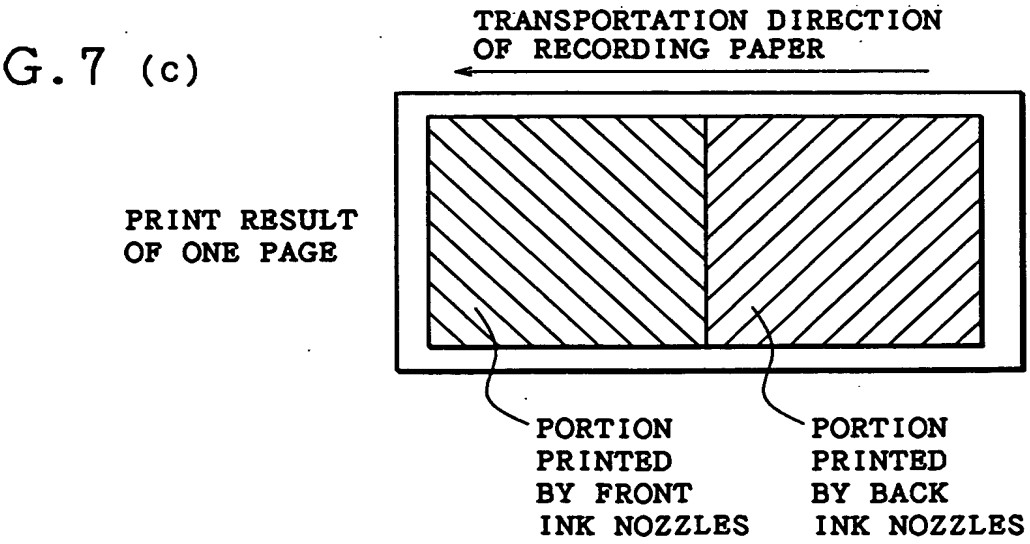


FIG. 7 (c)



0957080 - 052800

FIG. 8

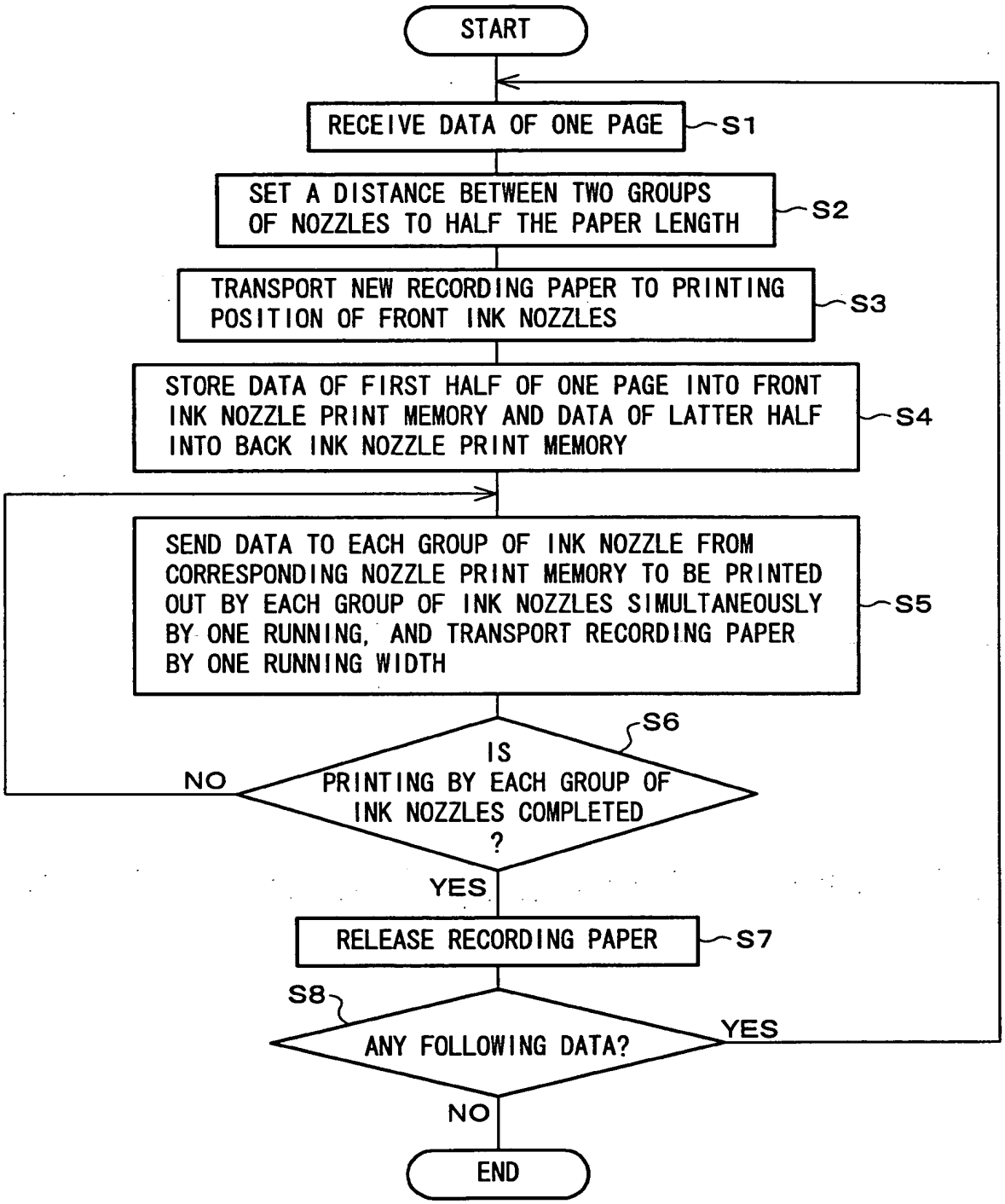
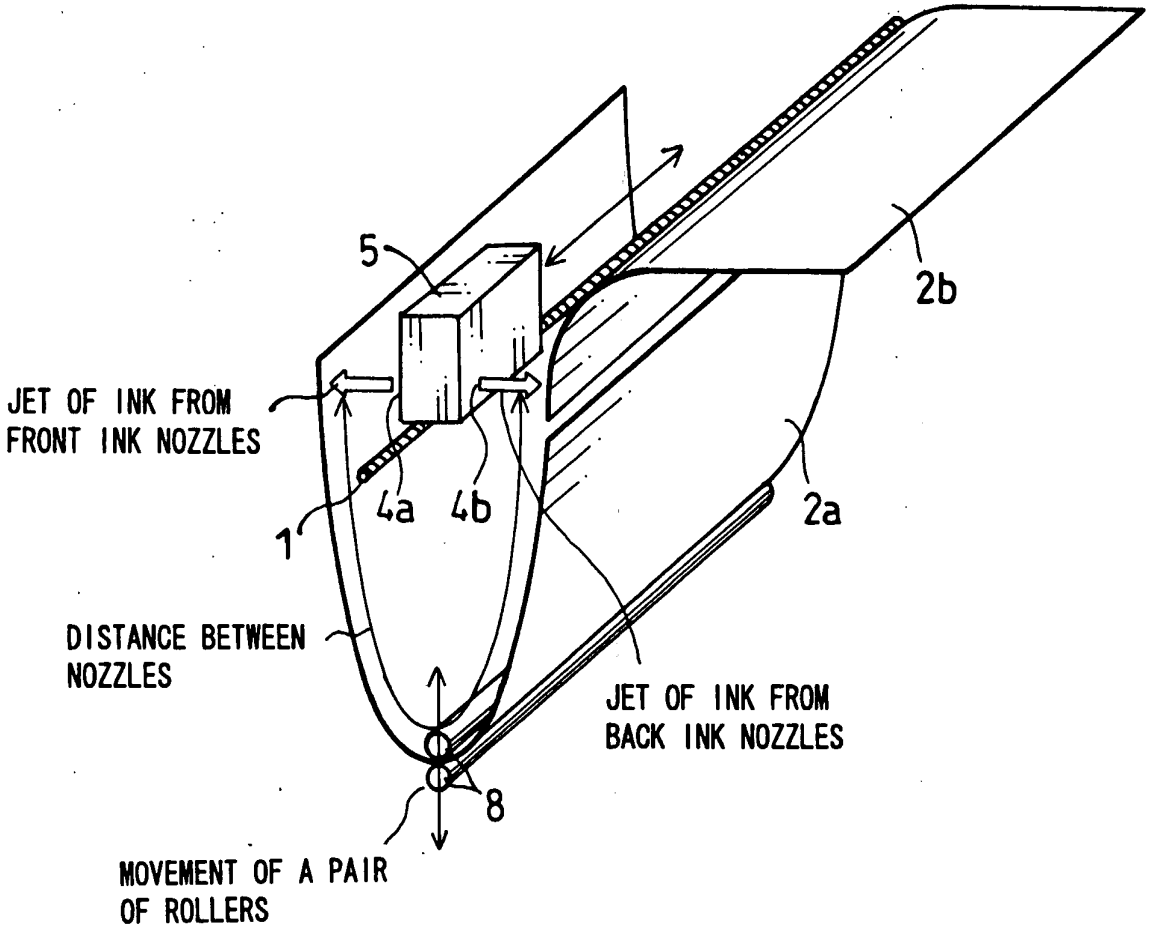
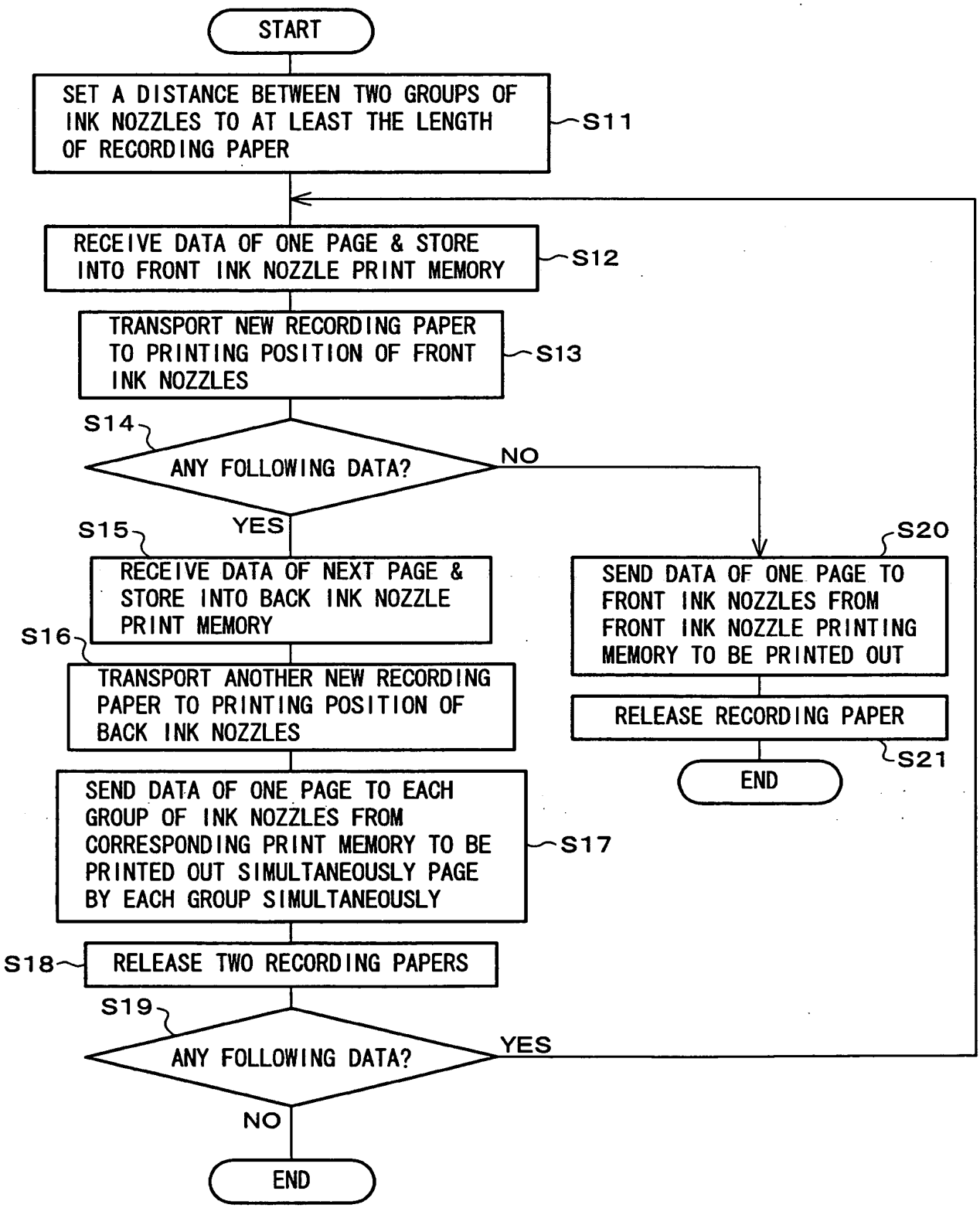

START
RECEIVE DATA OF ONE PAGE
S1
SET A DISTANCE BETWEEN TWO GROUPS OF NOZZLES TO HALF THE PAPER LENGTH
S2
TRANSPORT NEW RECORDING PAPER TO PRINTING POSITION OF FRONT INK NOZZLES
S3
STORE DATA OF FIRST HALF OF ONE PAGE INTO FRONT INK NOZZLE PRINT MEMORY AND DATA OF LATTER HALF INTO BACK INK NOZZLE PRINT MEMORY
S4
SEND DATA TO EACH GROUP OF INK NOZZLE FROM CORRESPONDING NOZZLE PRINT MEMORY TO BE PRINTED OUT BY EACH GROUP OF INK NOZZLES SIMULTANEOUSLY BY ONE RUNNING, AND TRANSPORT RECORDING PAPER BY ONE RUNNING WIDTH
S5
S6
IS PRINTING BY EACH GROUP OF INK NOZZLES COMPLETED ?
NO
YES
RELEASE RECORDING PAPER
S7
S8
ANY FOLLOWING DATA?
YES
NO
END

FIG. 9



09670840.092800

FIG. 10



0567080+0928800

FIG.11(a)

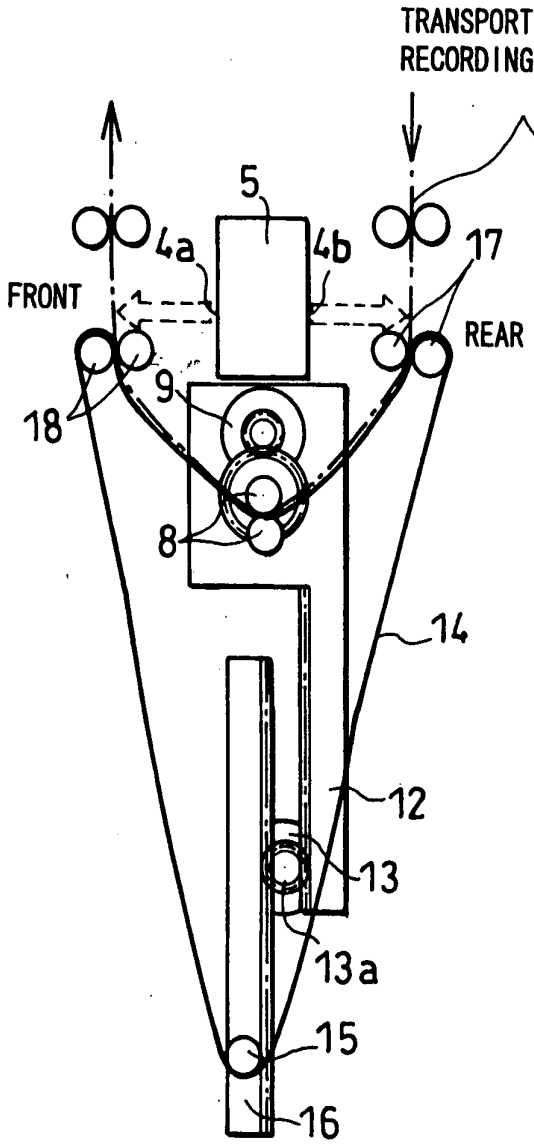
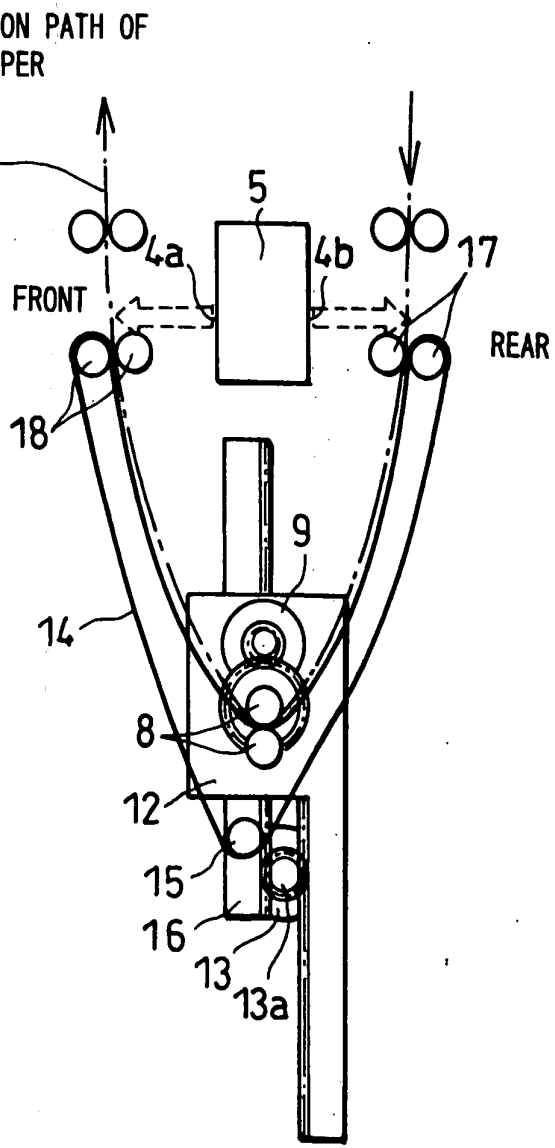


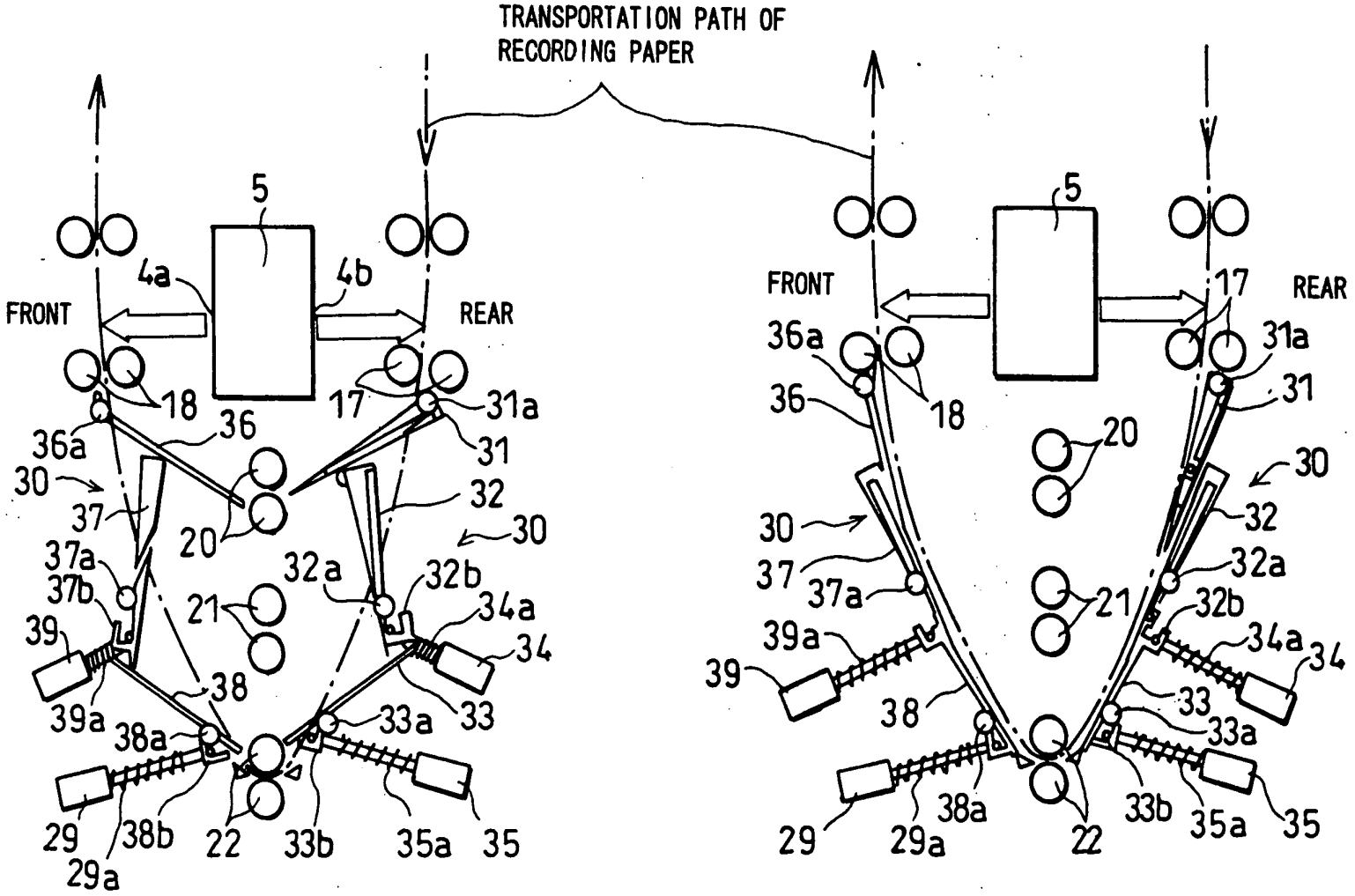
FIG.11(b)



09670840.092800

FIG. 12(a)

FIG. 12(b)



09670840 .092800

FIG. 13

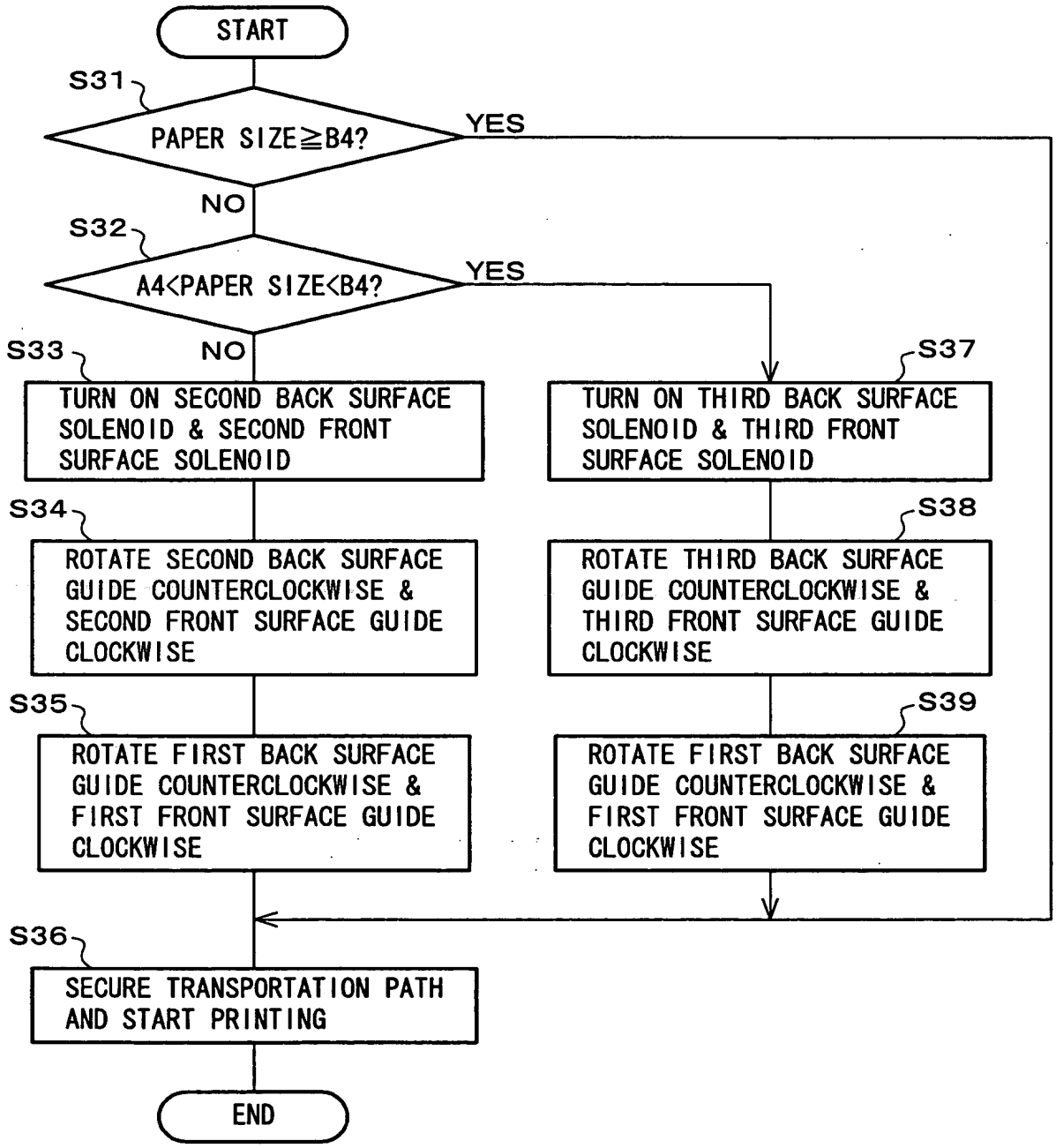

START
S31
PAPER SIZE≧B4?
YES
NO
S32
A4<PAPER SIZE<B4?
YES
NO
S33
TURN ON SECOND BACK SURFACE SOLENOID & SECOND FRONT SURFACE SOLENOID
S34
ROTATE SECOND BACK SURFACE GUIDE COUNTERCLOCKWISE & SECOND FRONT SURFACE GUIDE CLOCKWISE
S35
ROTATE FIRST BACK SURFACE GUIDE COUNTERCLOCKWISE & FIRST FRONT SURFACE GUIDE CLOCKWISE
S37
TURN ON THIRD BACK SURFACE SOLENOID & THIRD FRONT SURFACE SOLENOID
S38
ROTATE THIRD BACK SURFACE GUIDE COUNTERCLOCKWISE & THIRD FRONT SURFACE GUIDE CLOCKWISE
S39
ROTATE FIRST BACK SURFACE GUIDE COUNTERCLOCKWISE & FIRST FRONT SURFACE GUIDE CLOCKWISE
S36
SECURE TRANSPORTATION PATH AND START PRINTING
END

FIG. 14 (a)

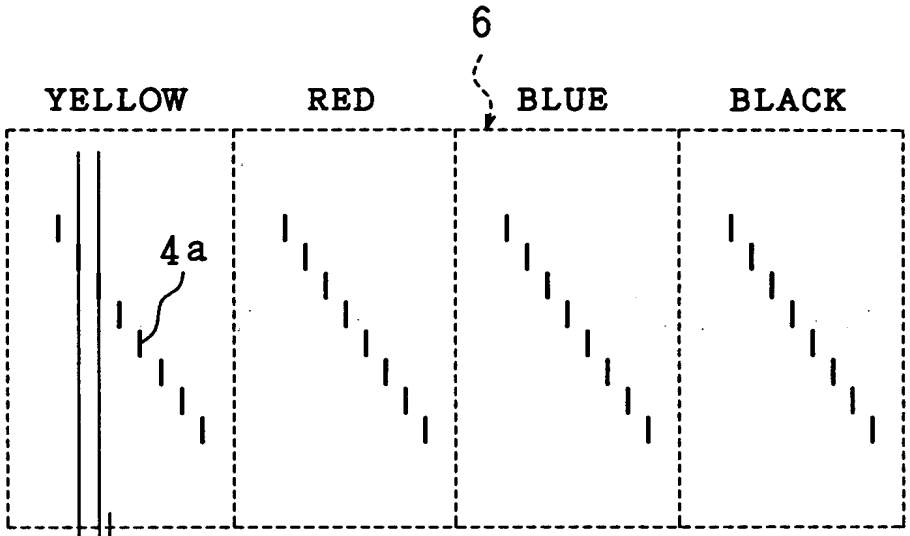
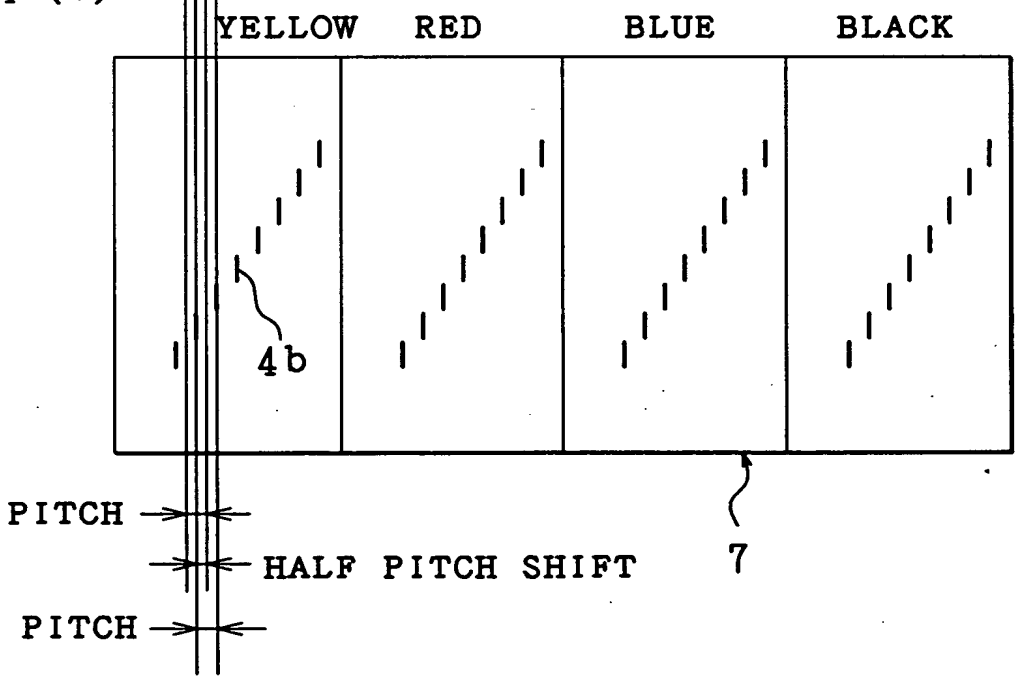
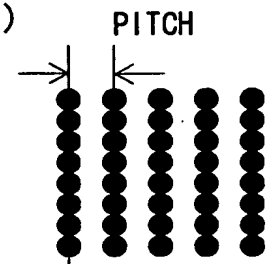


FIG. 14 (b)



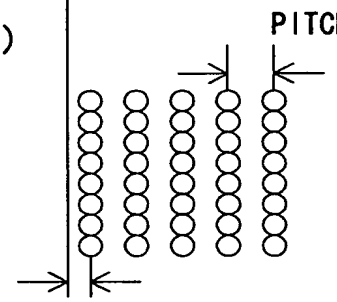
0057084-092800

FIG. 15 (a)



PRINT DATA OF ODD-NUMBERED COLUMNS

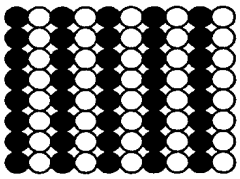
FIG. 15 (b)



PRINT DATA OF EVEN-NUMBERED COLUMNS

HALF PITCH SHIFT

FIG. 15 (c)



SUPERIMPOSING OF ODD-NUMBERED COLUMNS AND EVEN-NUMBERED COLUMNS

0957084D-092800

FIG. 16

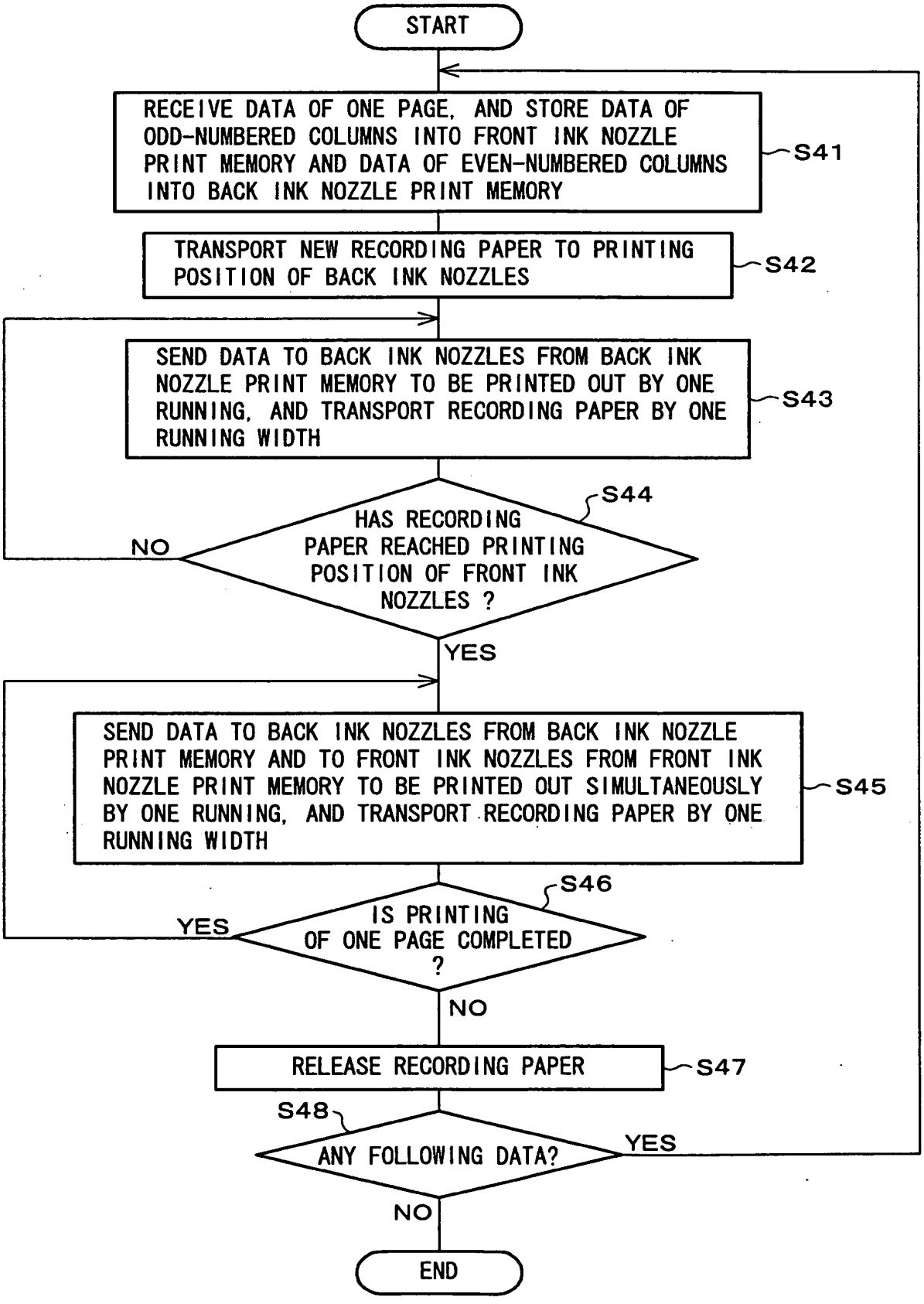

START
RECEIVE DATA OF ONE PAGE, AND STORE DATA OF ODD-NUMBERED COLUMNS INTO FRONT INK NOZZLE PRINT MEMORY AND DATA OF EVEN-NUMBERED COLUMNS INTO BACK INK NOZZLE PRINT MEMORY
S41
TRANSPORT NEW RECORDING PAPER TO PRINTING POSITION OF BACK INK NOZZLES
S42
SEND DATA TO BACK INK NOZZLES FROM BACK INK NOZZLE PRINT MEMORY TO BE PRINTED OUT BY ONE RUNNING, AND TRANSPORT RECORDING PAPER BY ONE RUNNING WIDTH
S43
S44
HAS RECORDING PAPER REACHED PRINTING POSITION OF FRONT INK NOZZLES ?
NO
YES
SEND DATA TO BACK INK NOZZLES FROM BACK INK NOZZLE PRINT MEMORY AND TO FRONT INK NOZZLES FROM FRONT INK NOZZLE PRINT MEMORY TO BE PRINTED OUT SIMULTANEOUSLY BY ONE RUNNING, AND TRANSPORT RECORDING PAPER BY ONE RUNNING WIDTH
S45
S46
IS PRINTING OF ONE PAGE COMPLETED ?
YES
NO
RELEASE RECORDING PAPER
S47
S48
ANY FOLLOWING DATA?
YES
NO
END

FIG. 17 (a)

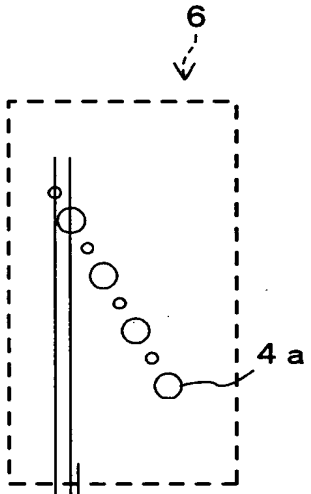


FIG. 17 (b)

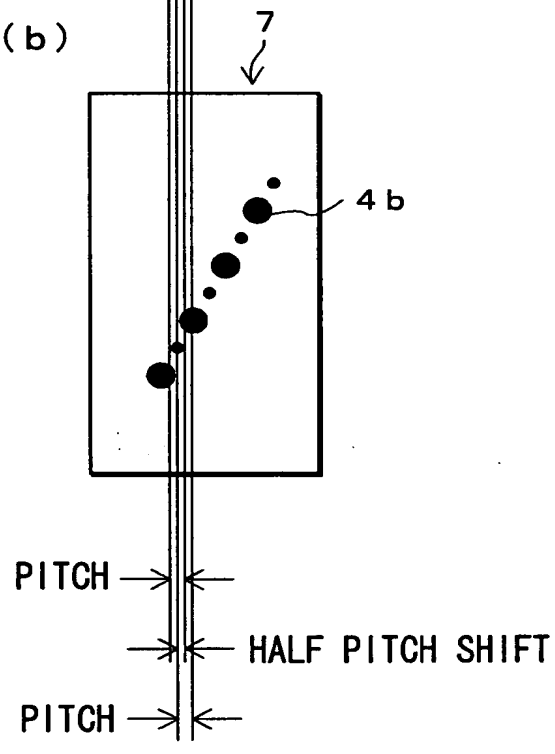
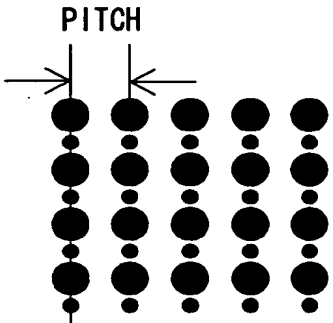
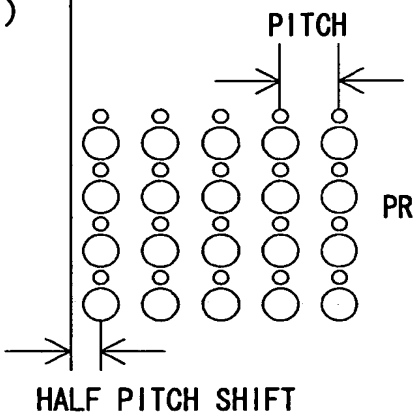


FIG. 18 (a)



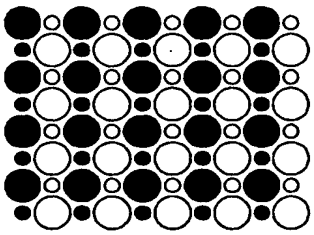
PRINT DATA OF ODD-NUMBERED COLUMNS

FIG. 18 (b)



PRINT DATA OF EVEN-NUMBERED COLUMNS

FIG. 18 (c)

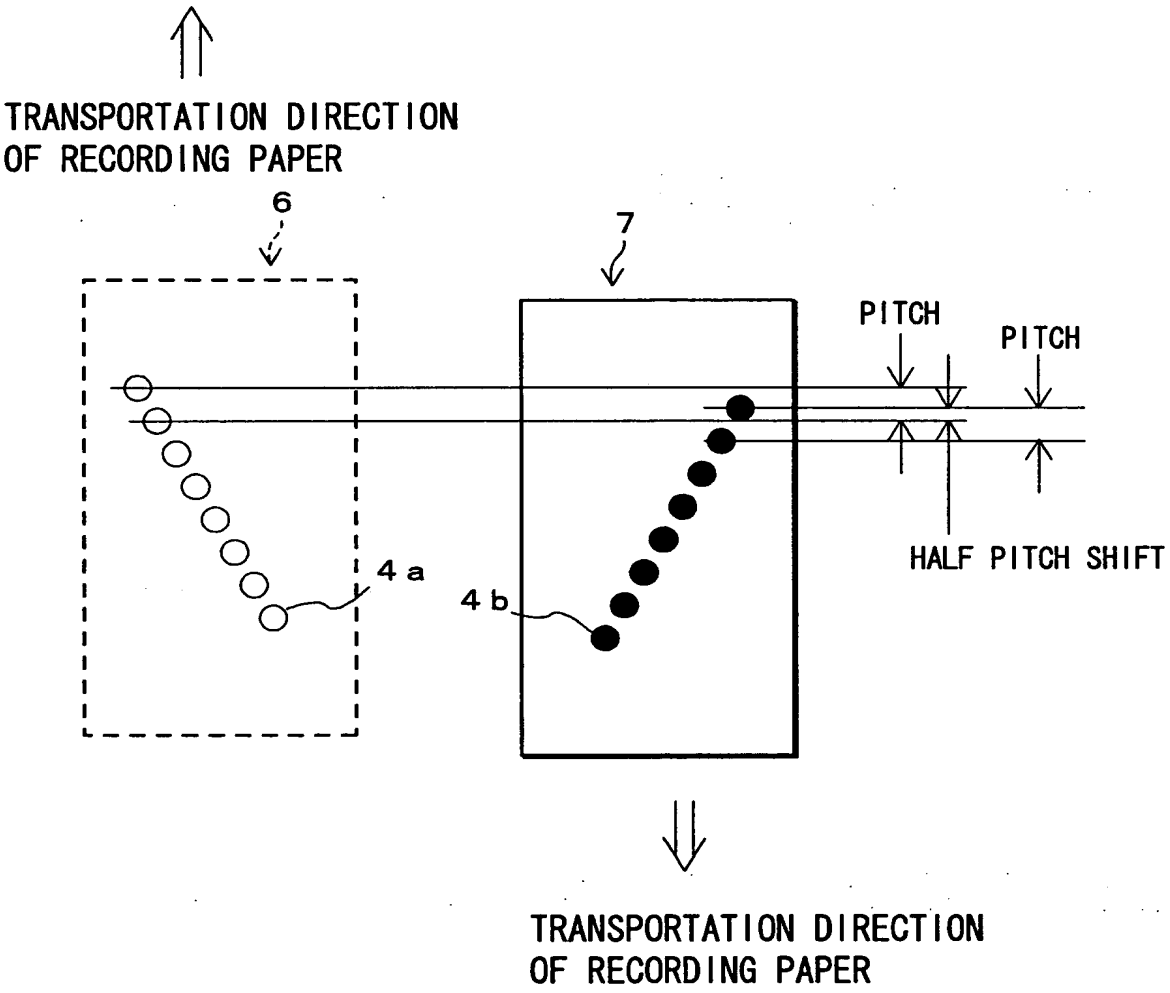


SUPERIMPOSING OF ODD-NUMBERED COLUMNS AND EVEN-NUMBERED COLUMNS

0065/0800 EP 0 2800 650 A1

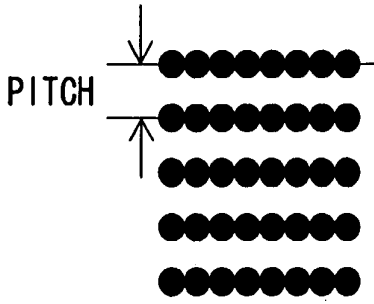
FIG. 19 (a)

FIG. 19 (b)



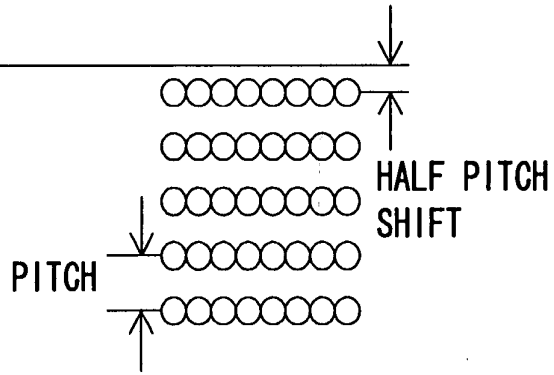
0053-0084-0052-00

FIG. 20 (a)



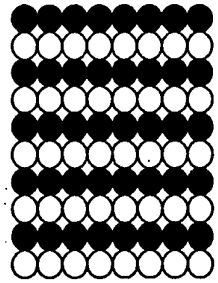
PRINT DATA OF
ODD-NUMBERED ROWS

FIG. 20 (b)



PRINT DATA OF
EVEN-NUMBERED ROWS

FIG. 20 (c)



SUPERIMPOSING OF
ODD-NUMBERED ROWS AND
EVEN-NUMBERED ROWS

09670840 .092800

FIG. 21 (a)

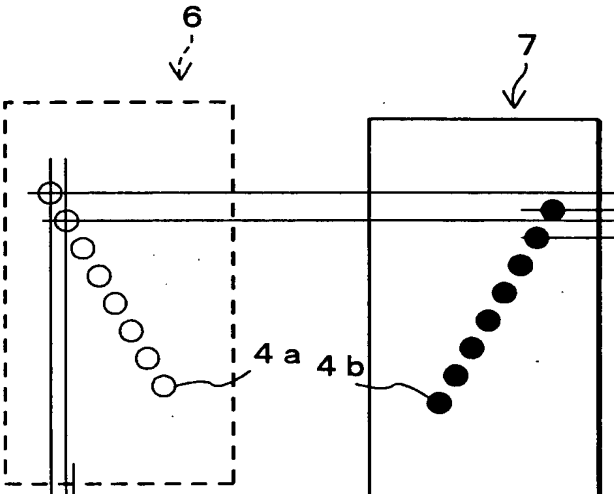


FIG. 21 (b)

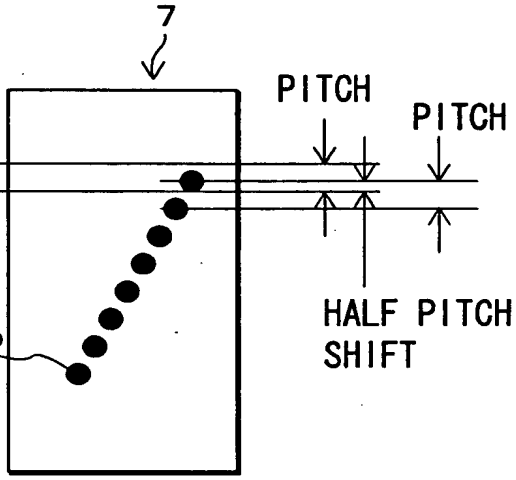
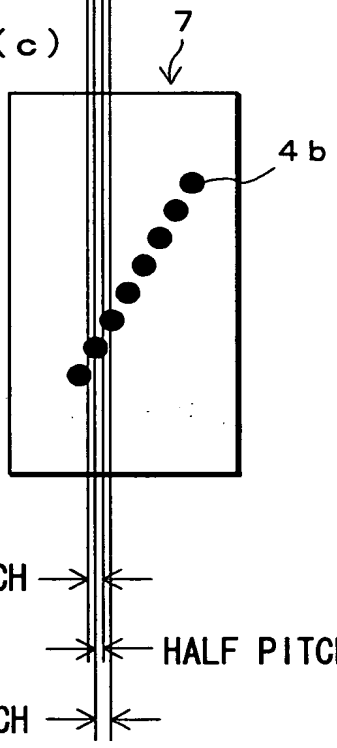
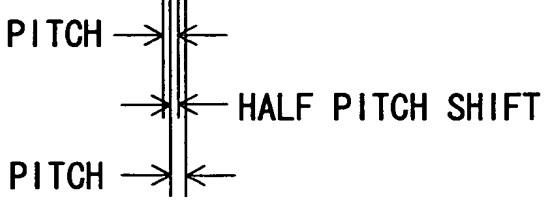


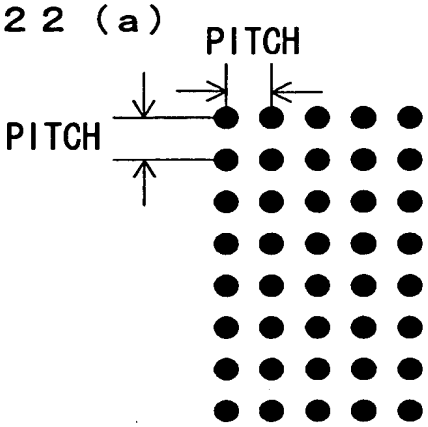
FIG. 21 (c)





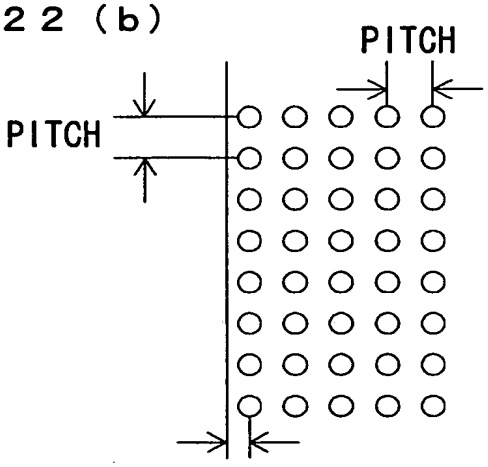
0957040-052800

FIG. 22 (a)



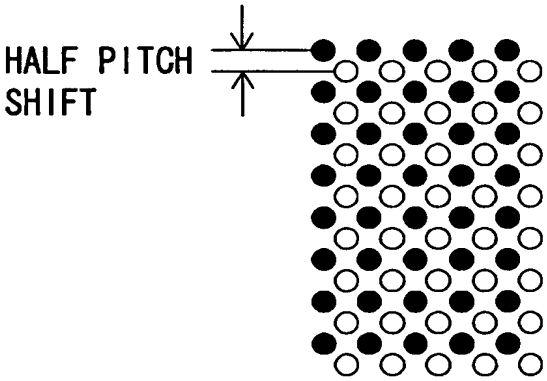
PRINT DATA OF ODD-NUMBERED ROWS/ODD-NUMBERED COLUMNS

FIG. 22 (b)



PRINT DATA OF EVEN-NUMBERED ROWS/EVEN-NUMBERED COLUMNS

FIG. 22 (c)



SUPERIMPOSING OF ODD-NUMBERED ROWS/ODD-NUMBERED COLUMNS AND EVEN-NUMBERED ROWS /EVEN-NUMBERED COLUMNS

0956/0810-0952800

FIG. 23 (a)

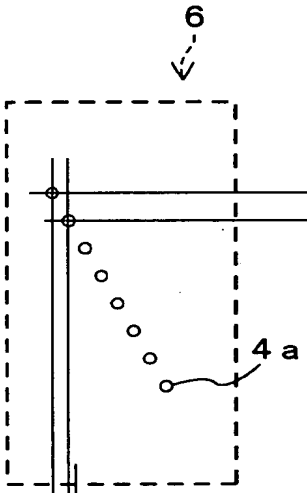


FIG. 23 (b)

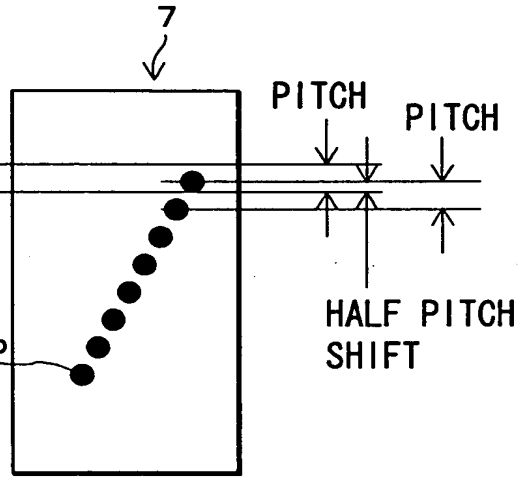
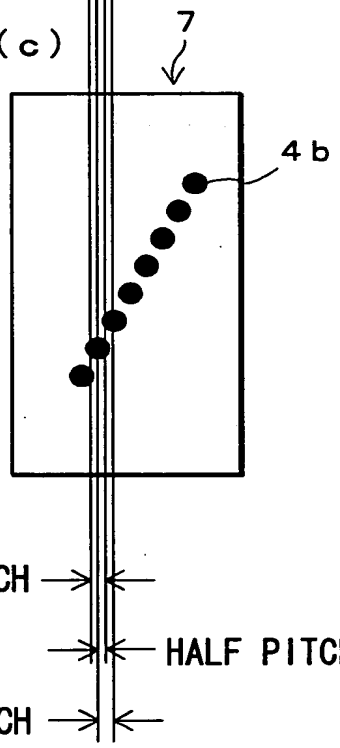


FIG. 23 (c)



0967084D:092800

FIG. 24 (a)

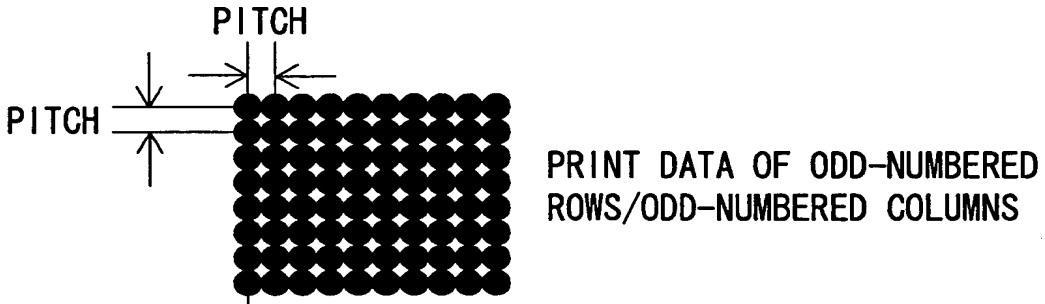


FIG. 24 (b)

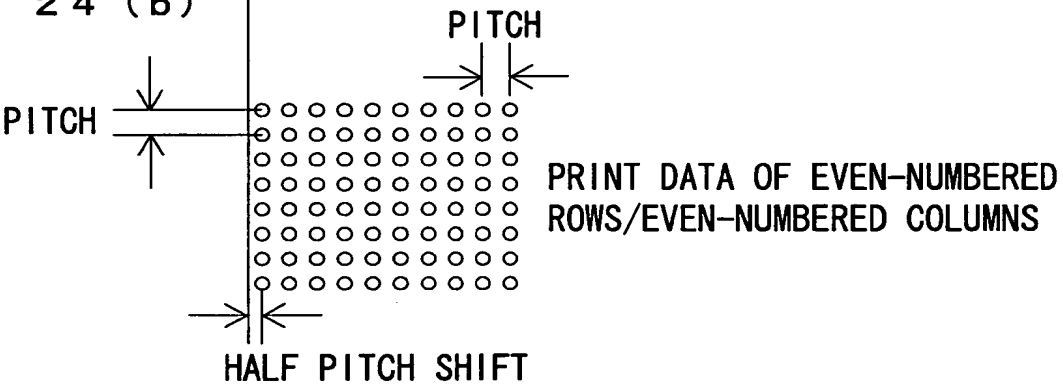
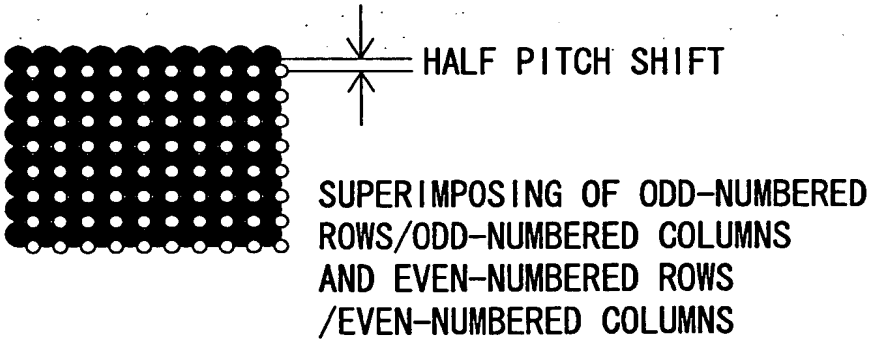
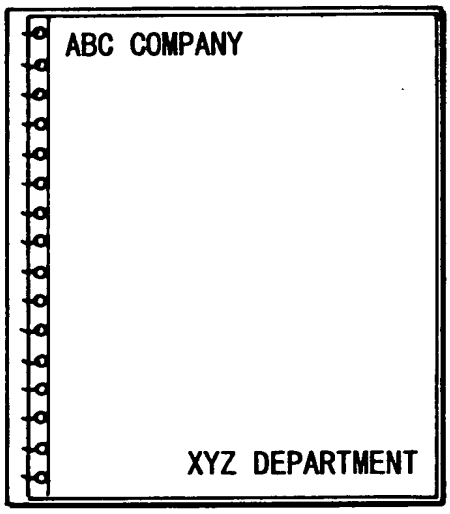


FIG. 24 (c)



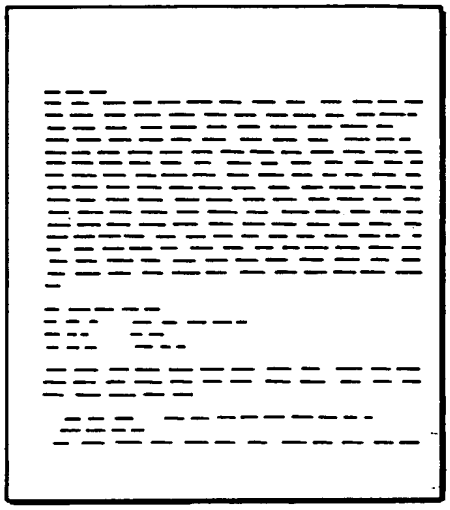
0570840 - 052800

FIG. 25(a)



WATERMARK

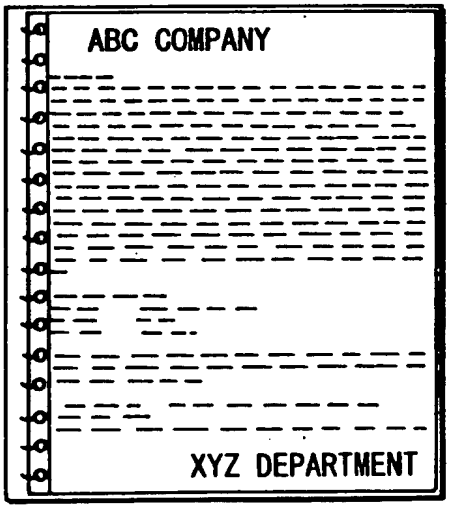
FIG. 25(b)



PRINT DATA

SUPERIMPOSE PRINT MADE
BY TWO GROUPS OF NOZZLES

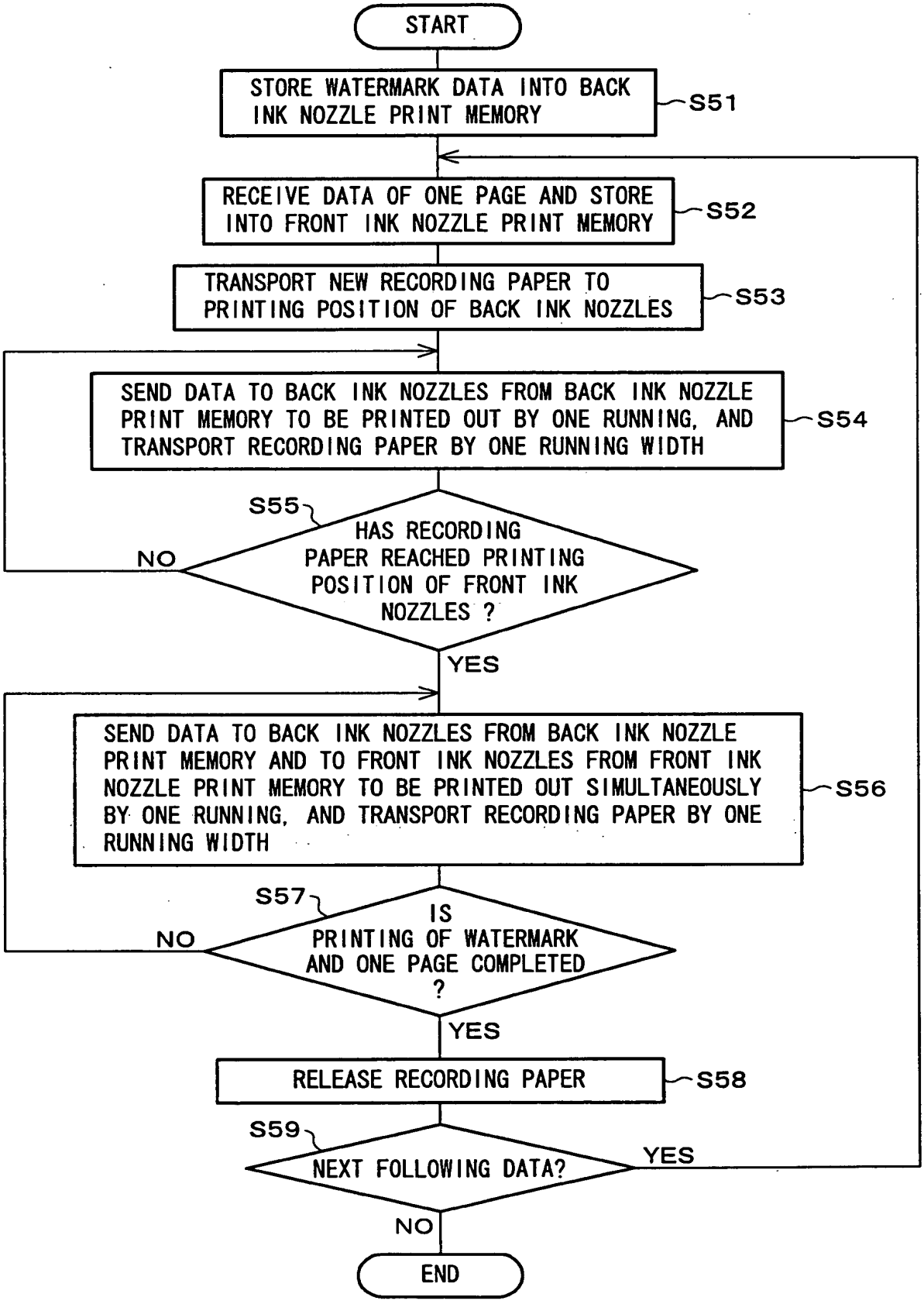
FIG. 25(c)



PRINT RESULT

0967084-092800

FIG. 26



0052805 "0 0840 0795 0"

FIG. 27

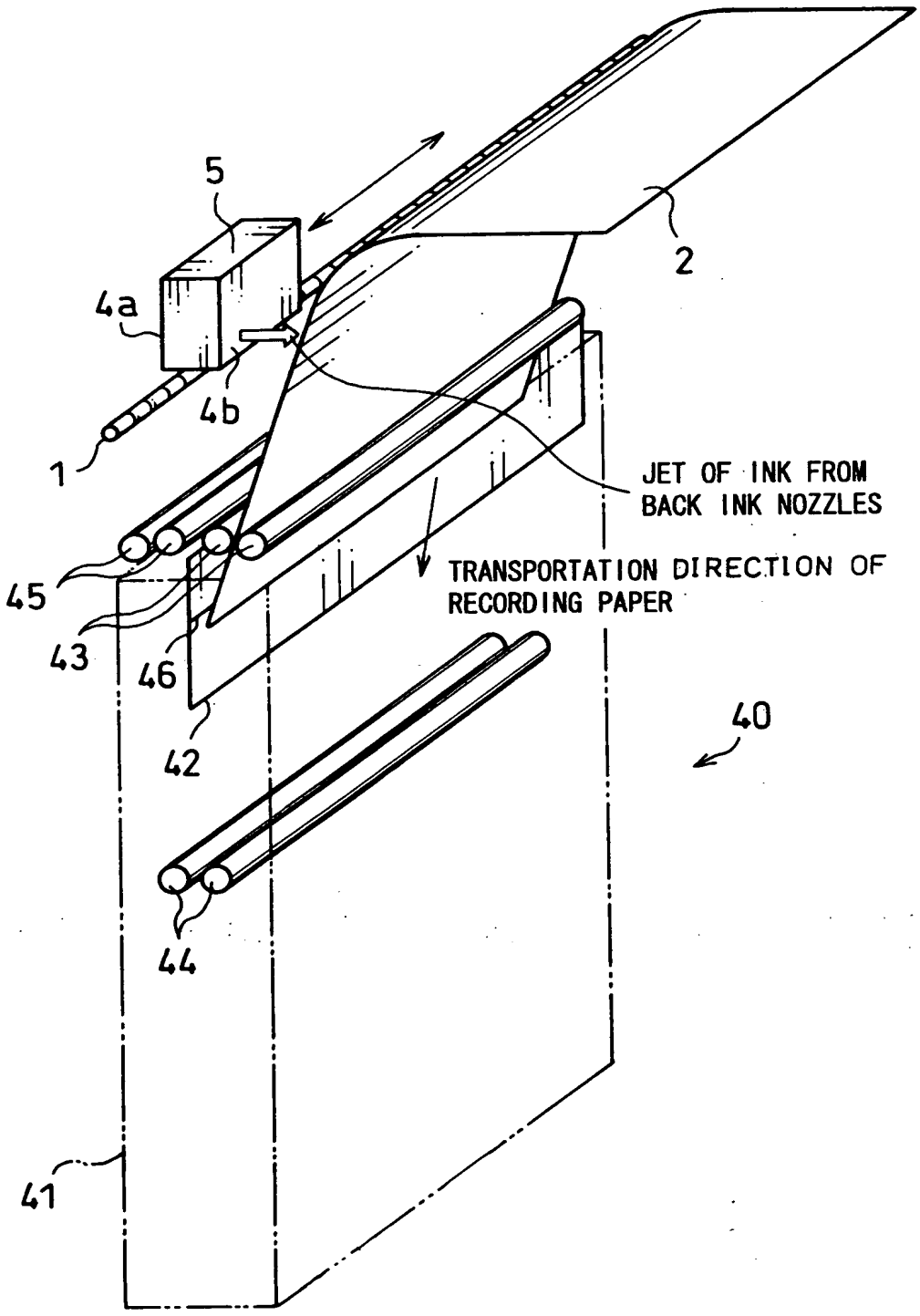
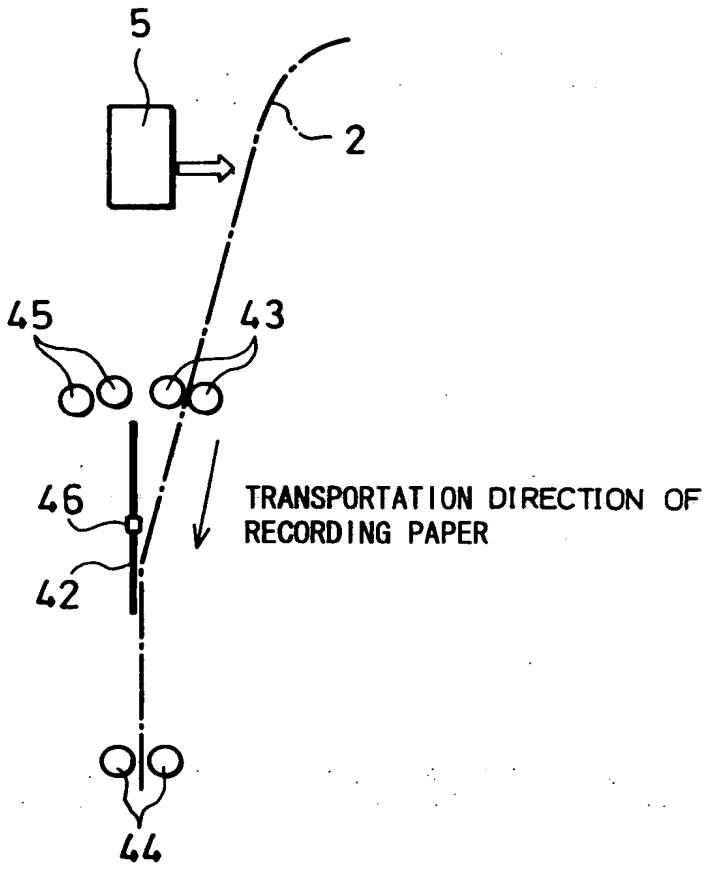
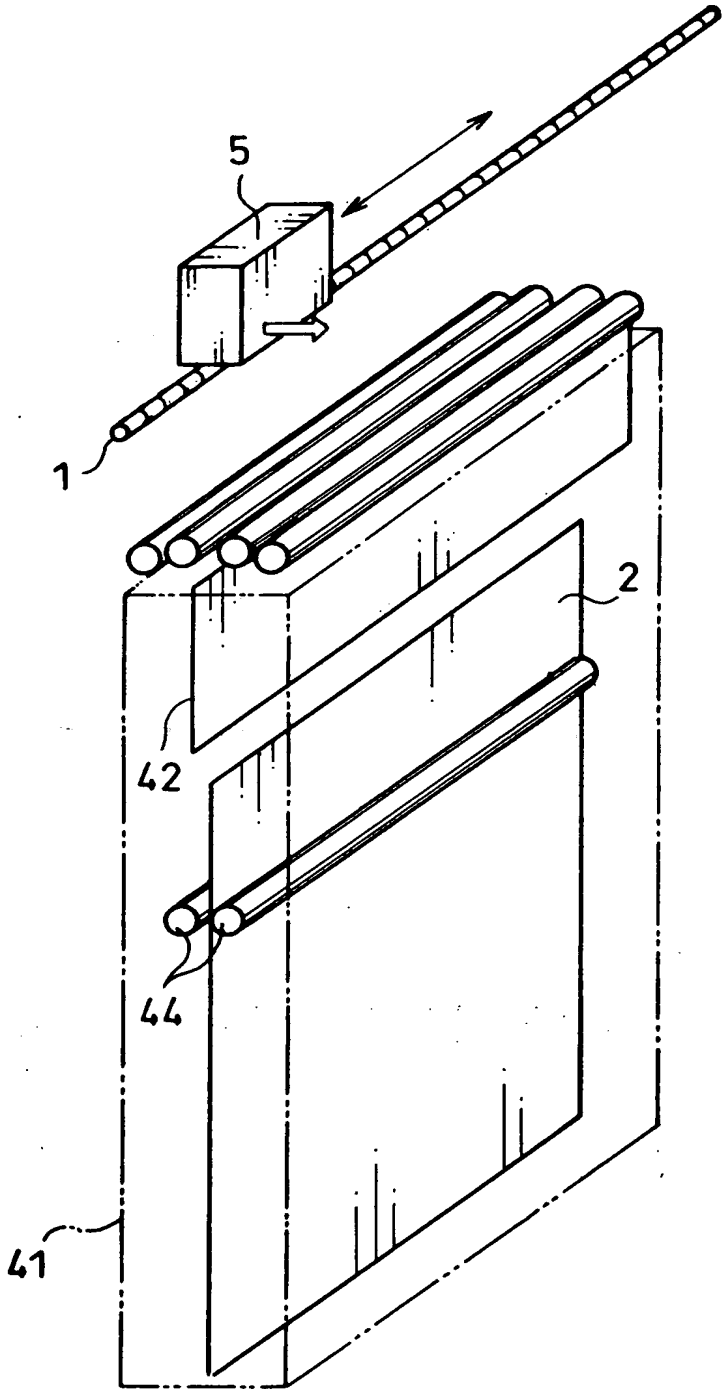

5
2
4a
4b
1
JET OF INK FROM
BACK INK NOZZLES
TRANSPORTATION DIRECTION OF
RECORDING PAPER
45
43
46
42
40
44
41

FIG. 28



0957084D-0952800

FIG. 29



D9570840-052800

FIG. 30

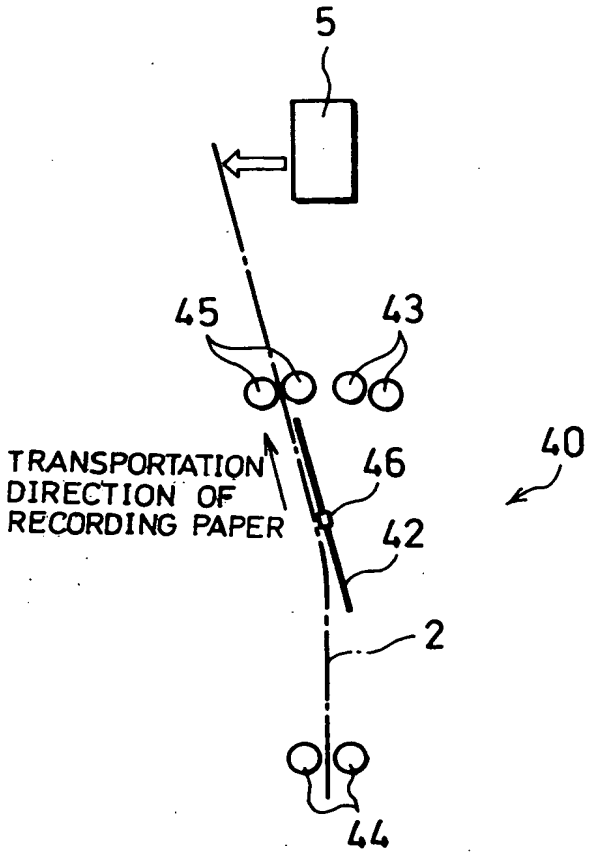

5
45
43
TRANSPORTATION DIRECTION OF RECORDING PAPER
46
40
42
2
44

FIG. 31

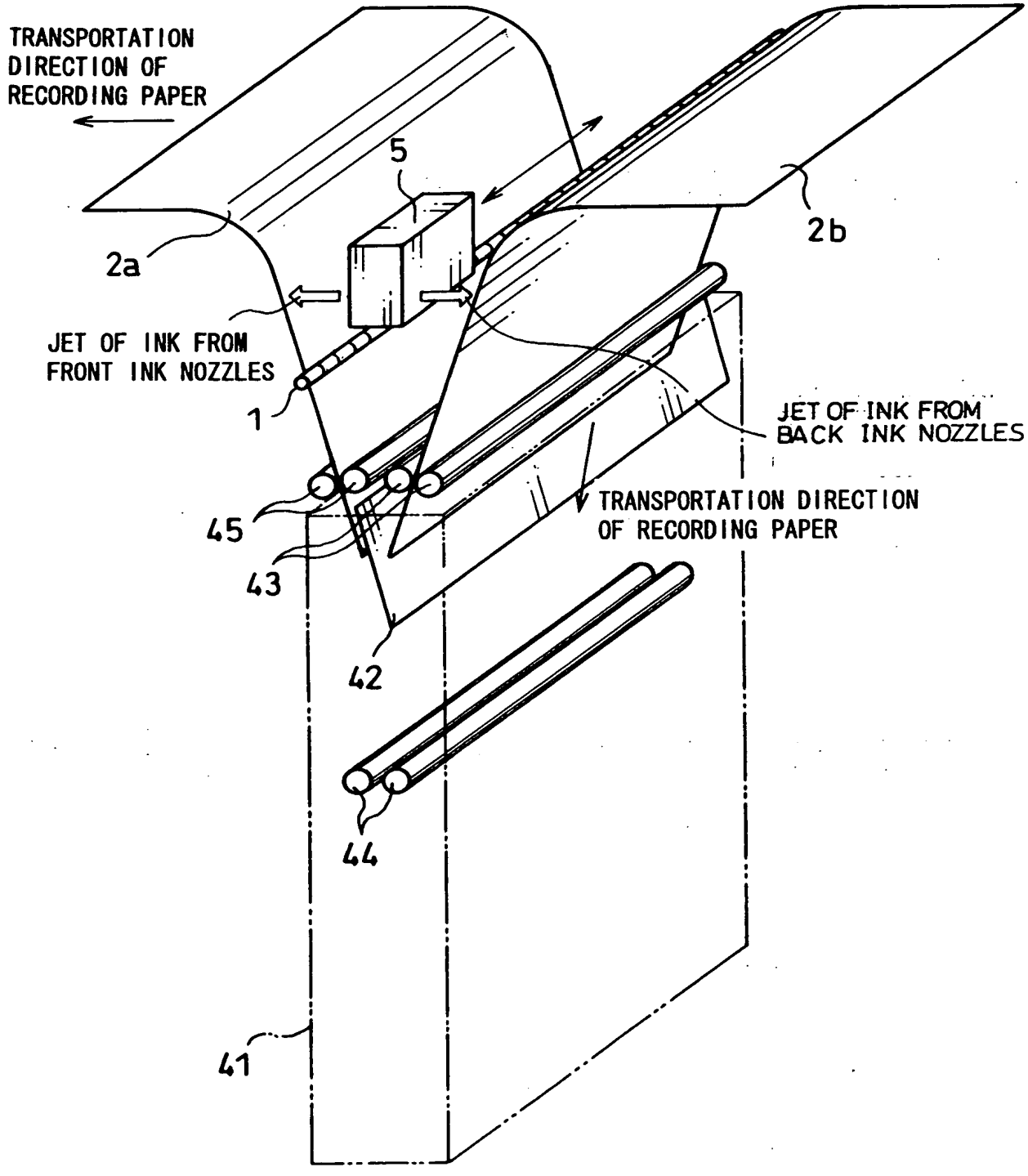
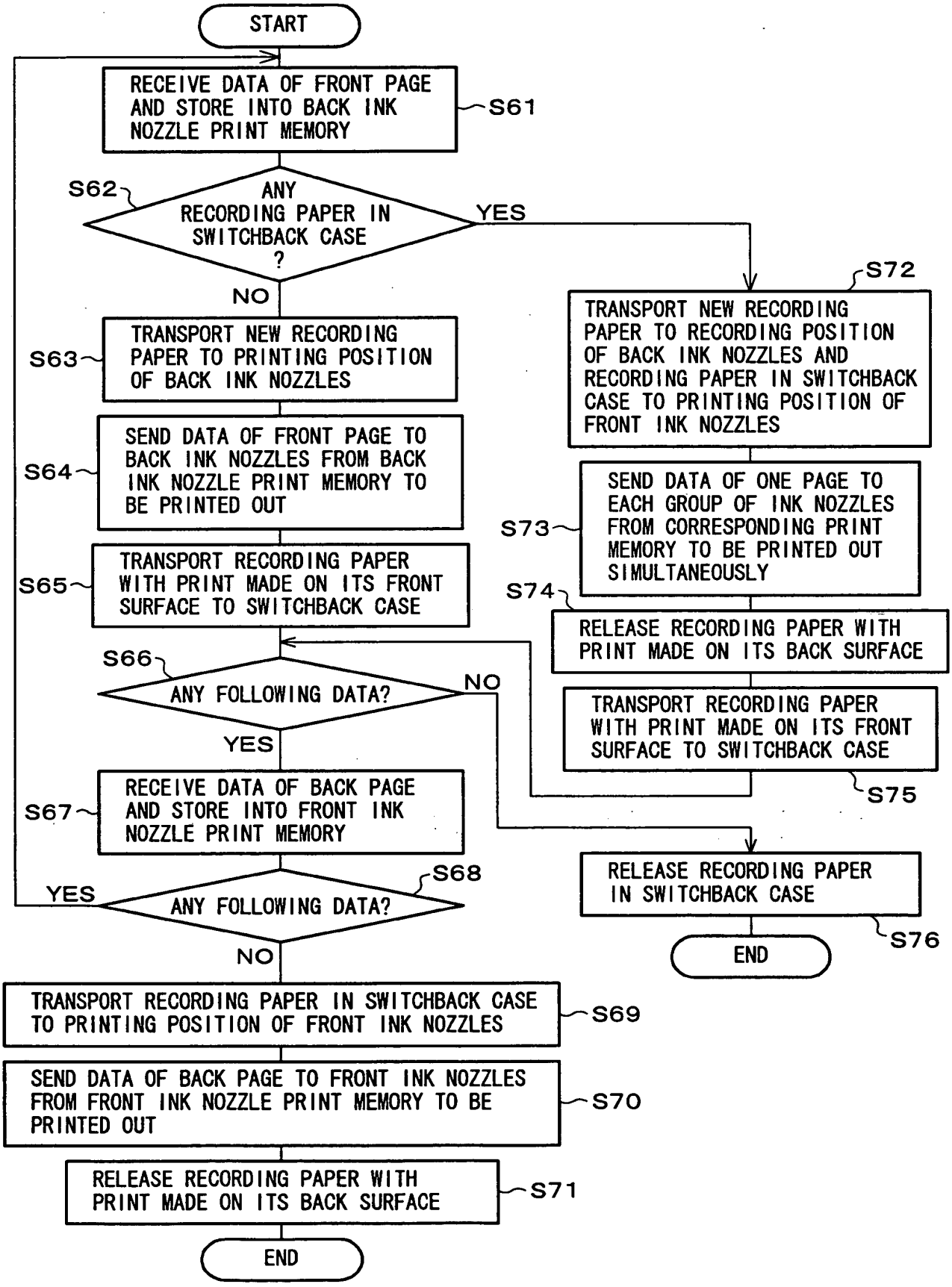

TRANSPORTATION DIRECTION OF RECORDING PAPER
5
2a
2b
JET OF INK FROM FRONT INK NOZZLES
1
JET OF INK FROM BACK INK NOZZLES
TRANSPORTATION DIRECTION OF RECORDING PAPER
45
43
42
44
41

FIG. 32



0052804-0040/99

FIG. 33

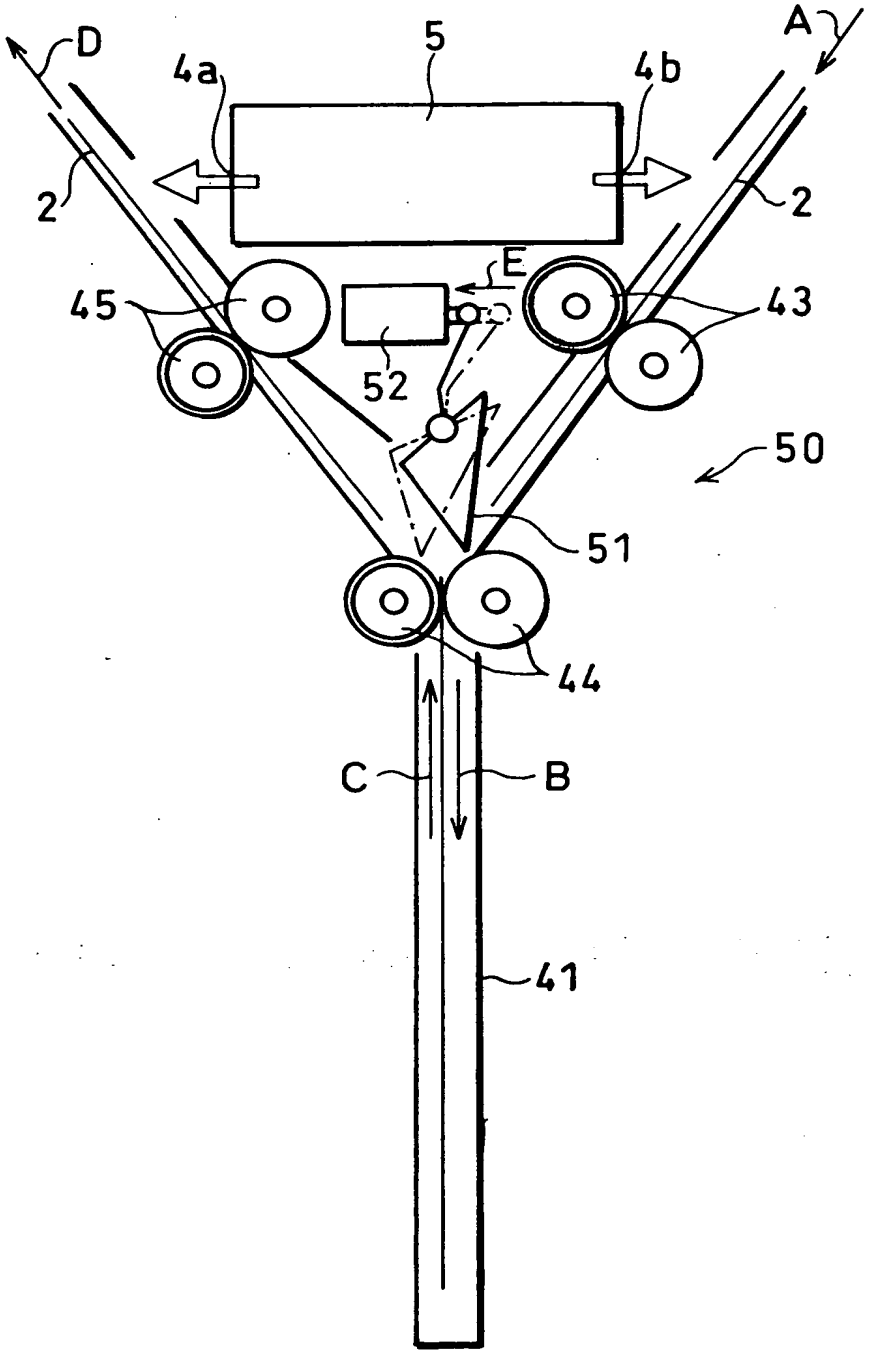


FIG. 34

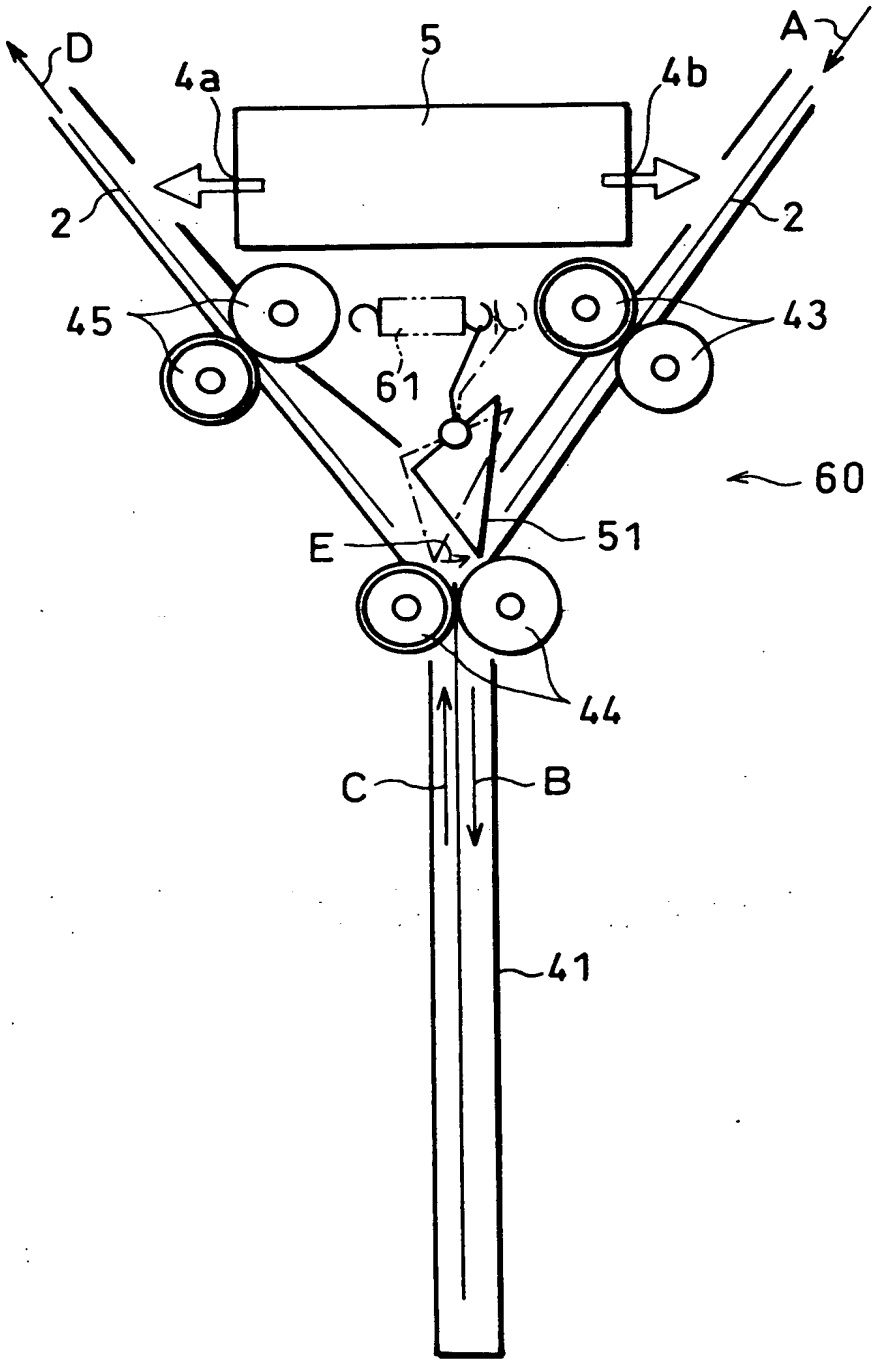
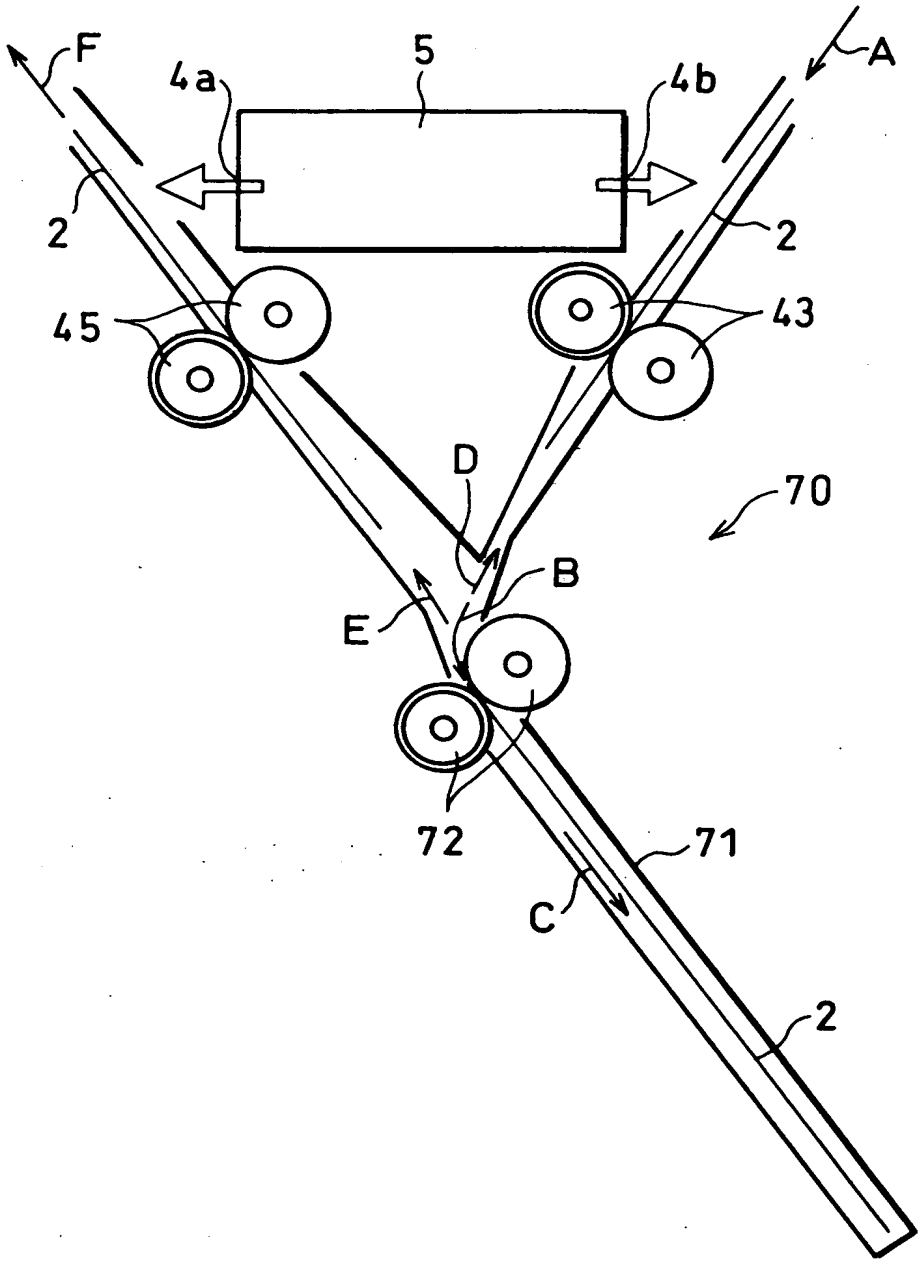
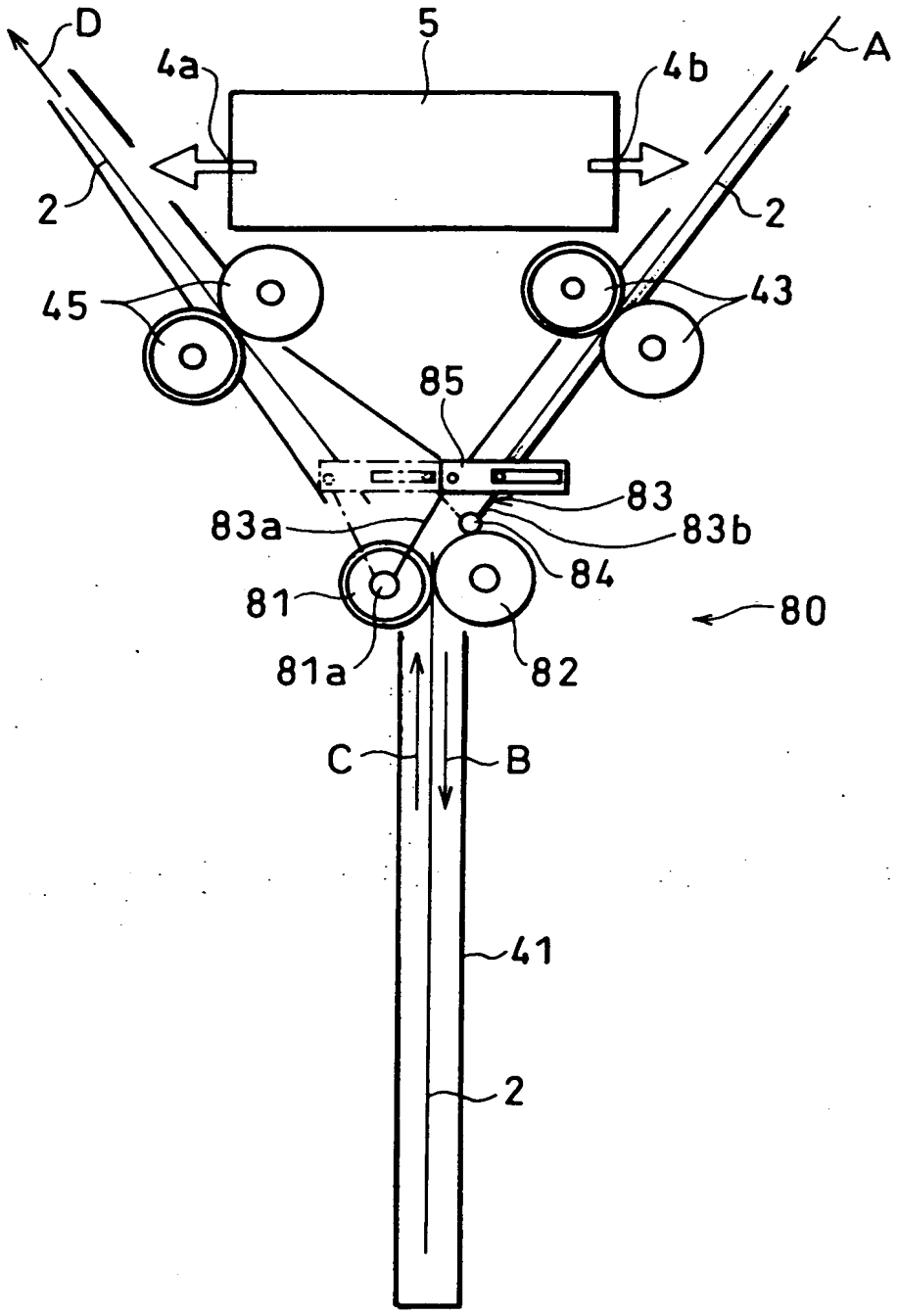


FIG. 35



0967084D.092800

FIG. 36



0970840 - 0970800

FIG. 37

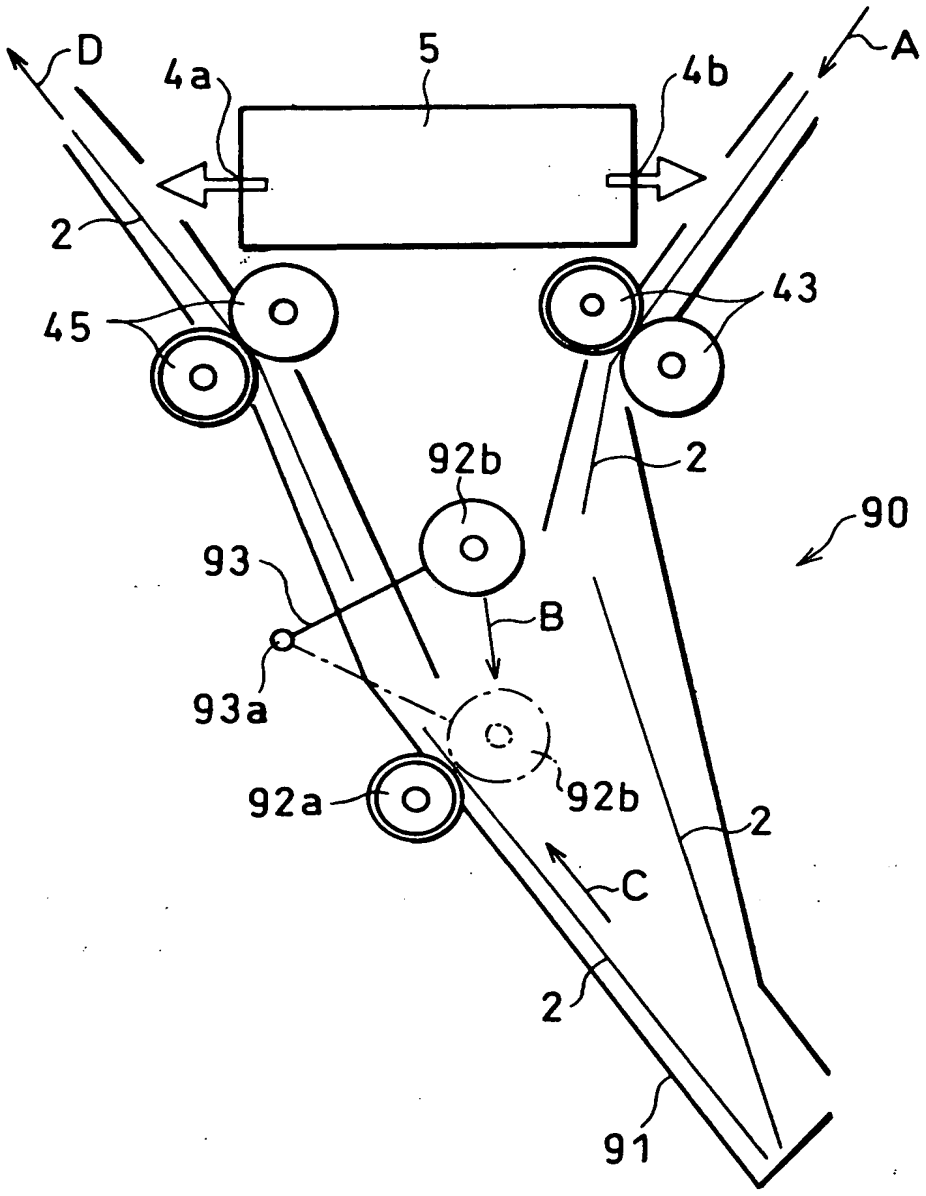


FIG. 38

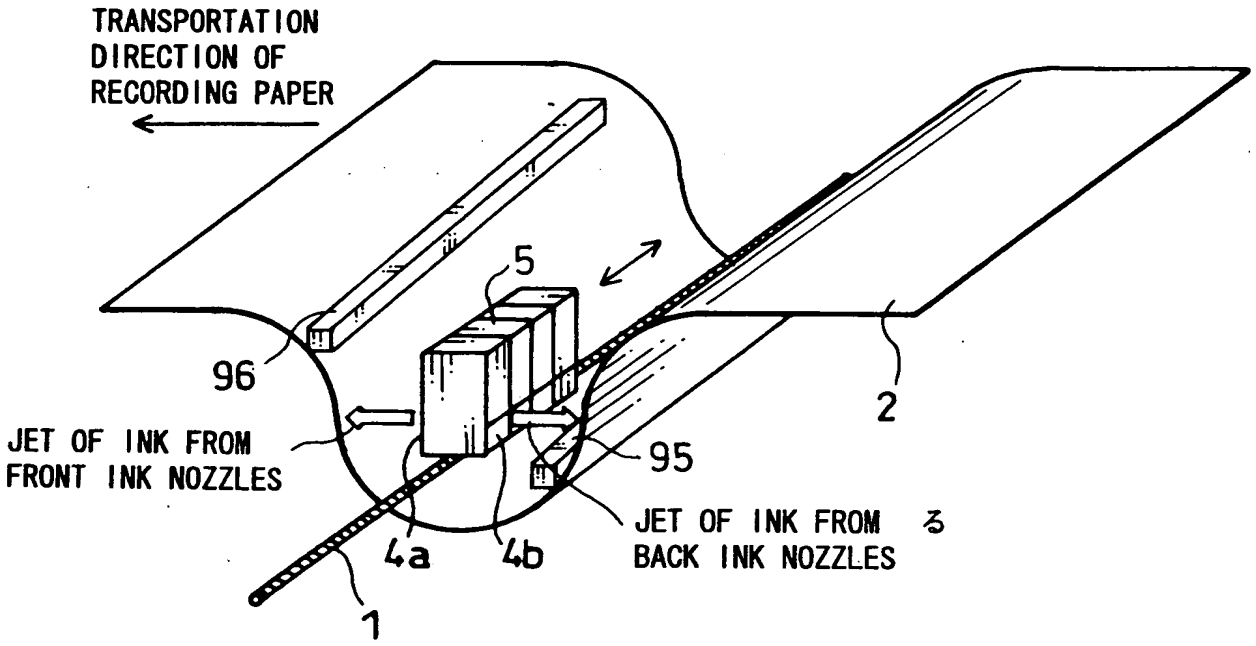

TRANSPORTATION
DIRECTION OF
RECORDING PAPER
5
96
2
JET OF INK FROM
FRONT INK NOZZLES
95
JET OF INK FROM
BACK INK NOZZLES
3
4a
4b
1

FIG. 39

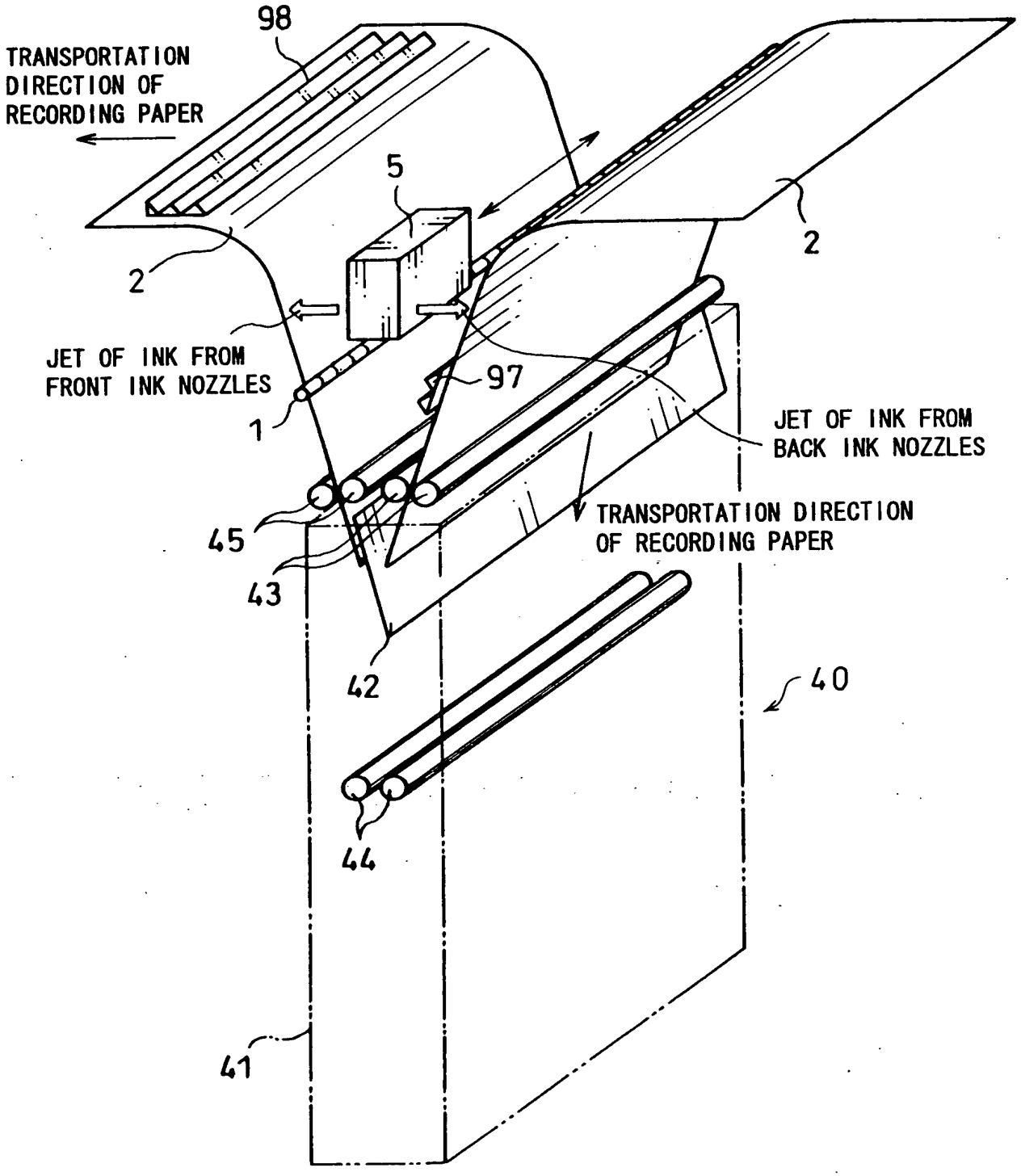

98
TRANSPORTATION DIRECTION OF RECORDING PAPER
5
2
2
JET OF INK FROM FRONT INK NOZZLES
97
1
JET OF INK FROM BACK INK NOZZLES
45
TRANSPORTATION DIRECTION OF RECORDING PAPER
43
42
40
44
41

FIG.40

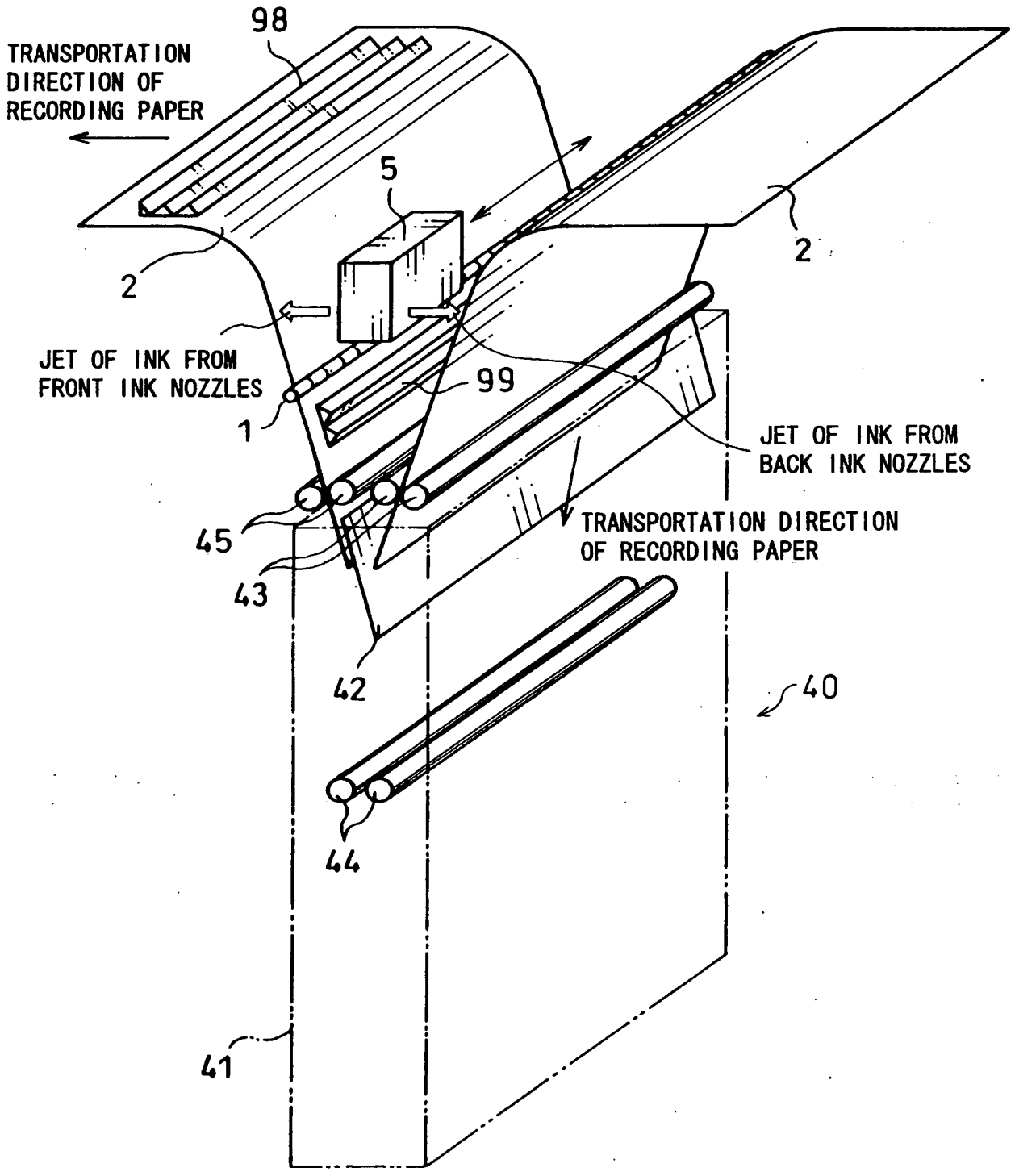

98
TRANSPORTATION DIRECTION OF RECORDING PAPER
5
2
2
JET OF INK FROM FRONT INK NOZZLES
99
1
JET OF INK FROM BACK INK NOZZLES
45
TRANSPORTATION DIRECTION OF RECORDING PAPER
43
42
40
44
41

FIG. 41 (a)

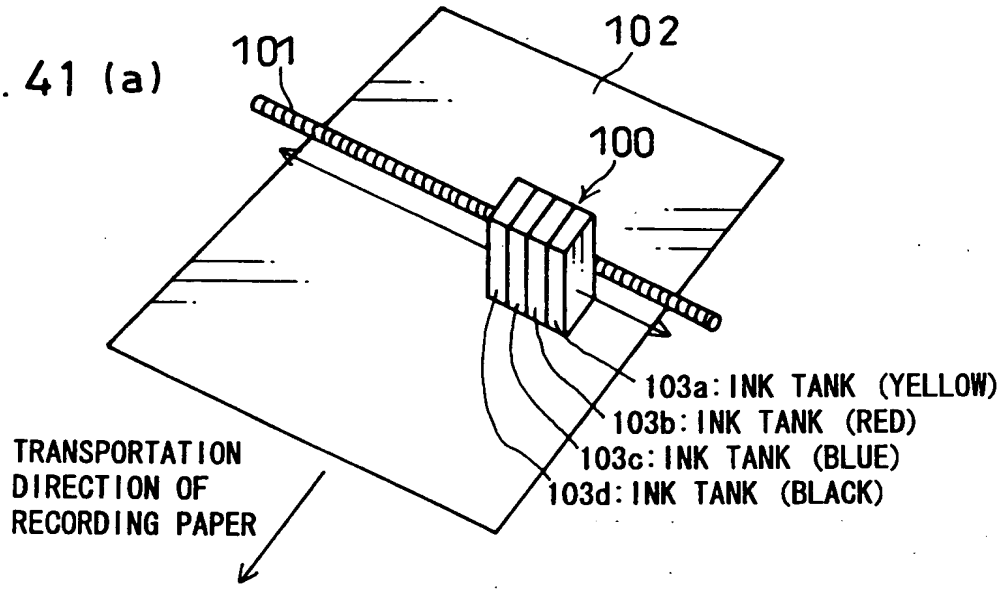


FIG. 41 (b)

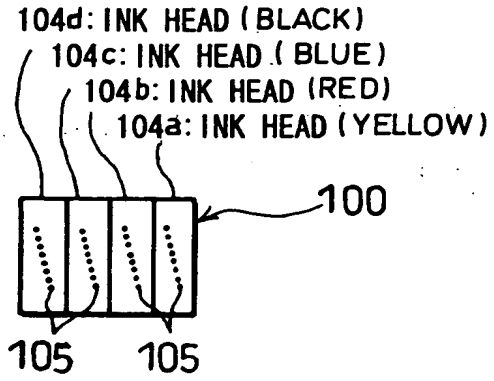
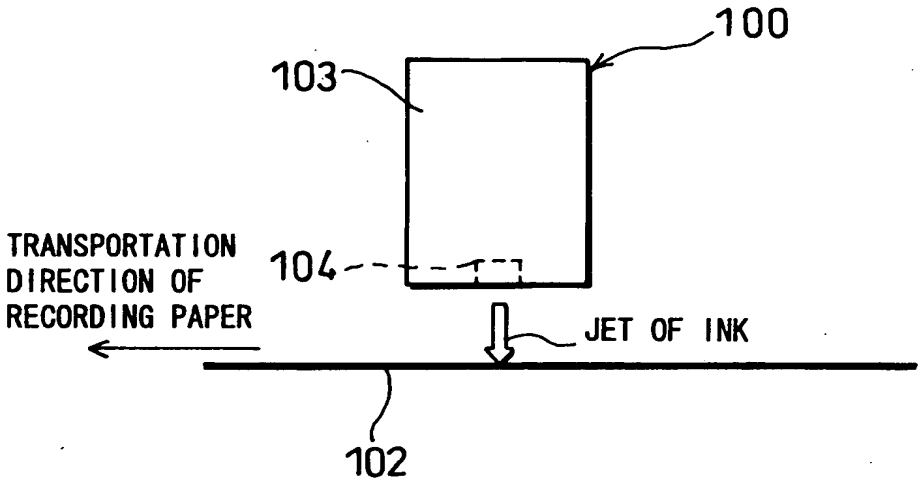


FIG. 42



0050840 "05280